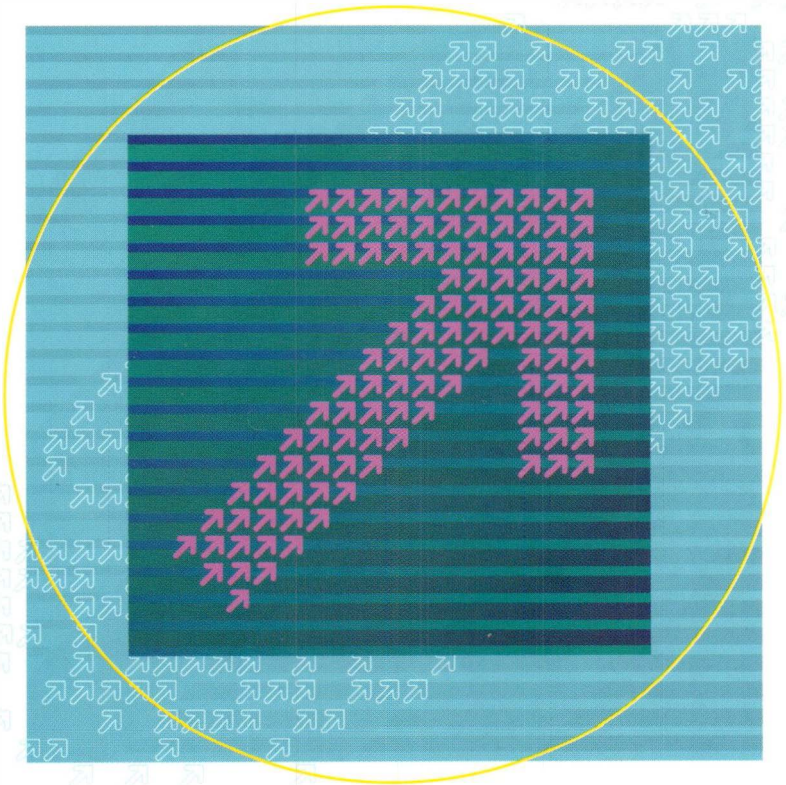
Meridian 1

Meridian MAX

NTPs

Release 7 Standard 1.0

Book 1 of 2



NORTEL

NORTHERN TELECOM

Cover # P0815576

Meridian 1

Meridian MAX

NTPs

Release 7 Standard 1.0

Book 1 of 2

NORTEL
NORTHERN TELECOM

A0639866
NT1R94AA

Spine # P0815578

GRUEIN UIO

NORTEL

NORTHERN TELECOM

A0 639866
BK 1 of 2

553-4001-911

Electronic Private Automatic Branch Exchange and Business Communication Systems

Meridian MAX

Overview

Product release 7 Standard 1.0 November 1995

NORTEL

NORTHERN TELECOM

P0815591

Electronic Private Automatic Branch Exchange and Business Communication Systems

Meridian MAX

Overview

Publication number: 553-4001-911
Product release: 7
Document release: Standard 1.0
Date: November 1995

© 1995 Northern Telecom
All rights reserved

Printed in the United States of America

Information is subject to change without notice. Northern Telecom reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

Nortel, Meridian, Meridian MAX, Meridian MAX - IPE, ACD-MAX, Meridian 1, SL-1, and Meridian Terminal Emulator are trademarks of Northern Telecom. Compaq is a trademark of Compaq Computer Corporation. DEC, VT220, VT420, and VT520 are trademarks of Digital Equipment Corporation. HP, HP Vectra, RuggedWriter, DeskJet, LaserJet, and PaintJet are trademarks of Hewlett-Packard Company. IBM, PC, AT, and IBM PS/2 are trademarks of International Business Machines Incorporated. Windows and MS/DOS are trademarks of Microsoft Corporation. Ven-Tel and the Ven-Tel logo are trademarks of Ven-Tel Incorporated. TEAC is a trademark of TEAC Corporation. UDS and SYSTEM V/68 are trademarks of Motorola Incorporated. UNIX is a registered trademark of AT&T. Reflection is a registered trademark of Walker Richer & Quinn, Inc. Ethernet is a registered trademark of Xerox. Gandalf is a registered trademark of Gandalf Technologies Inc. Racal is a registered trademark of Racal Data Communications Incorporated.

Publication history

November 1995

This document was issued as the *Meridian MAX 7 Overview* (NTP 553-4001-911) Standard 1.0.

Contents

About this document ix
Terminology ix
Conventions ix
Sample screens xi
Reference to other Meridian MAX documents xi
Reference to NAC documents xiii
Reference to other ACD documents xiv

Chapter 1: Meridian MAX overview 1-1
Meridian MAX 1-1
Automatic call distribution 1-1
Meridian 1 1-2
Software requirements 1-3
Meridian MAX functions 1-3
Supervisors 1-3
System administrator 1-4
Meridian MAX workstation 1-4
Management reports 1-5
Meridian MAX 7 new features 1-5
Meridian MAX features 1-5
Disclaimer 1-5
Hardware platforms 1-6
Hardware overview 1-7
System layout 1-10
System upgrades 1-13
Upgrade paths 1-14
Keycodes 1-15
Networking 1-16
NAC connectivity 1-16

MAX Status Interface 1-16
CCR/EAR 1-17
X11 and X81 software packaging requirements 1-17
Packaging requirements 1-18

Chapter 2: Capacities **2-1**
Hardware-dependent capacities 2-1
Port assignment 2-1
Supported workstations 2-1
Meridian MAX and MTE 2-2
Supported printers 2-3
System capacities 2-3

Chapter 3: Meridian MAX features **3-1**
Agent Status Display 3-1
Calls abandoned reporting 3-1
Capacity Configuration 3-2
Color Customization 3-2
Configuration Control 3-3
Data stream reporting 3-3
Dial-up supervisor 3-4
Display Definition 3-4
DNIS Definition 3-4
Formula Definition 3-4
Graphic Format Definition 3-5
High-Speed Link status indicator 3-5
International language support 3-5
LAN-based supervisor workstations 3-5
LAN parameters 3-6
List Management 3-6
Local printing to PC-based supervisor workstations 3-6
Locate Agent on Agent Status Display 3-6
MAX Status Interface 3-7
Monitor Another Supervisor 3-7
Multiple Queue Assignment 3-7
NAC connectivity 3-8
Online port assignment 3-8
Parameter Administration 3-8
Queue Statistics Display 3-9
Remote printing 3-9
Report Parameter Definition 3-9

Schedule Definition 3-10
Spectrum Definition 3-10
Supervisor Display Access (SDA) 3-10
Supervisor Messaging 3-11
System reports 3-11
Tabular Format Definition 3-11

Chapter 4: Network Automatic Call Distribution (NACD) 4-1

Chapter 5: Network Administration Center (NAC) 5-1
NAC connectivity 5-1
NAC features 5-1
Configuration Control 5-1
Supervisor Messaging 5-2
Remote supervisor login 5-2
Consolidated network management 5-2
Real-time statistics 5-2
Remote printing 5-2
Network connectivity 5-3
NAC network data flow 5-5

Chapter 6: MAX Status Interface (MSI) 6-1
Installation 6-2
Call routing application 6-3
Feature requirements 6-4
Feature limitations 6-4

Chapter 7: Customer Controlled Routing (CCR) 7-1
Typical applications 7-2
Credit card company example 7-2
Utility company example 7-2

Chapter 8: Management reports 8-1

Chapter 9: Master index 9-1
Description 9-1
NTP listings 9-1
Topical listings 9-4

List of terms 10-1

Index 11-1

Figures

Figure 1-1 Meridian MAX application module—SNN system 1-7
Figure 1-2 Meridian MAX IPE module containing a 600-Mbyte tape drive—front view 1-8
Figure 1-3 Meridian MAX IPE module containing a 155-Mbyte tape drive—front view 1-9
Figure 1-4 Meridian MAX SNN installation 1-10
Figure 1-5 Meridian MAX IPE Option 11 overview 1-11
Figure 1-6 Meridian MAX IPE Option 21–81 overview 1-12
Figure 4-1 Meridian 1 network example 4-2
Figure 5-1 Network connectivity overview with NAC 1 5-3
Figure 5-2 Network connectivity overview with NAC 2 5-4
Figure 5-3 NAC network data flow 5-5
Figure 6-1 MSI network connectivity 6-3
Figure 8-1 Example standard management report based on ACD-DN performance 8-3
Figure 8-2 Bar graph showing agent performance 8-4

Tables

Table 1-1 Meridian MAX 7 platform compositions 1-6
Table 1-2 Meridian MAX 7 upgrade paths 1-14
Table 2-1 Meridian MAX 7 platform port capacities 2-1
Table 2-2 General Meridian MAX 7 limits 2-4
Table 2-3 Basic ACD parameter limits (corresponding to Meridian 1 ACD limits) 2-5
Table 9-1 Meridian MAX 7 document list 9-1
Table 9-2 Topic/document cross-reference 9-4

About this document

This Overview guide functions as an introductory document for Meridian MAX Release 7. It briefly describes and explains Meridian MAX and its features and functions, giving the reader an understanding of its capabilities.

Terminology

The term "Meridian 1" is used throughout this document and refers to Meridian 1 and Meridian 1-ready systems (such as Meridian 1 SL-1 style cabinets that have been upgraded).

Conventions

The following conventions are used throughout the Meridian MAX document set:

CALLS ANSWD

Words in this typeface represent text on your screen or printed reports.

{RETURN}

Capitalized words or characters within braces represent a specific key on your keyboard. When two or more such keys appear side by side, you must press all of the keys simultaneously to achieve the desired effect.

Example

Press **{RETURN}** or **{CONTROL}{R}** to begin the procedure.

Note: {RETURN} and {ENTER} are interchangeable.

[Commands]

Words within square brackets represent the generic name attached to a specific function key.

Example

[Edit Field]

For more information, please refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "User interface" chapter, "Function keys" section.

Activity Code Report

Bold text represents specific text you must type on your keyboard. You must always press **{RETURN}** after an entry has been typed. This confirms the text and indicates to the system that you are ready to continue.

Example

Enter **10**, followed by **{RETURN}**.

"Graphic Format Definition"

Italicized text within quotation marks represents a specific choice you must make from a menu.

Example

Choose *"Graphic Format Definition"* from the Report Definition submenu.

Graph Title

Italicized text represents the name of a specific field on a screen or report.

Example

Move the cursor to the *Display Name* field.

"Configuration Control"

Text in quotation marks represents references to other areas of a document.

Example

Refer to the "Profile Maintenance" chapter.

Meridian MAX 7 Supervisor's User Guide

Italicized text represents references to other documents.

Example

Refer to the *Meridian MAX 7 Supervisor's User Guide*.

Sample screens

All screen depictions related to the Meridian Terminal Emulator (MTE) are based on a PC running the MTE software. All other screen depictions are based on the DEC VT420 or a compatible workstation. If you are using a different type of workstation, differences may occur between the function key menus on your screens and the function key menus depicted in this document. Different keyboards have different function key menus. Please refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "User interface" chapter, for more information.

Reference to other Meridian MAX documents

Additional information about Meridian MAX is contained in the following Nortel documents:

- 553-4001-111 *Meridian MAX 7 Installation Guide (P0815587)*
- 553-4001-811 *Meridian MAX 7 Maintenance and Diagnostics Guide (P0815589)*
- P0815598 *Meridian MAX 7 Supervisor's User Guide*
- P0815602 *MTE 6 User Guide*
- P0821303 *MTE 7 User Guide*
- 553-4001-210 *Meridian MAX 7 Installation Upgrade Guide for Meridian MAX 3 through 6 Systems (P0815593)*
- 553-4001-111 *Meridian MAX 6 Installation Guide (P0802079)*
- 553-4001-811 *Meridian MAX 6 Maintenance and Diagnostics Guide (P0802081)*
- P0802089 *Meridian MAX 6 Supervisor's User Guide*
- P0802091 *Meridian MAX 6 Supervisor's Reference Guide*
- 553-4001-210 *Meridian MAX 6 Installation Upgrade Guide for Meridian MAX 3, 4, 4.6, and 5 Systems (P0802085)*

• 553-4001-212	*Meridian MAX 6 Platform Upgrade Guide for ACD-MAX 3, 4, and ACD-D Systems (P0802087)*
• P0743664	*Meridian MAX 5 Supervisor's User Guide*
• P0743656	*Meridian MAX 5 Supervisor's Reference Guide*
• 553-4001-111	*Meridian MAX 5 Installation Guide (P0743645)*
• 553-4001-811	*Meridian MAX 5 Maintenance and Diagnostics Guide (P0743647)*
• 553-4001-911	*Meridian MAX 5 Overview (P0743643)*
• 553-4001-210	*Meridian MAX 5 Installation Upgrade Guide for Meridian MAX 3, 4, and 4.6 Systems (P0743683)*
• 553-4001-212	*Meridian MAX 5 Platform Upgrade Guide for ACD-MAX 3, 4, and ACD-D Systems (P0743687)*
• P0741145	*Meridian MAX - IPE 4.6 Supervisor's User Guide*
• 553-4001-024	*Meridian MAX - IPE 4.6 Master Index*
• 553-4001-121	*Meridian MAX - IPE 4.6 Installation*
• 553-4001-821	*Meridian MAX - IPE 4.6 Maintenance and Diagnostics*
• 553-4001-921	*Meridian MAX - IPE 4.6 Overview*
• 553-4001-004	*Meridian MAX 4 Master Index*
• 553-4001-111	*Meridian MAX 4 Installation*
• 553-4001-811	*Meridian MAX 4 Maintenance and Diagnostics*
• 553-4001-911	*Meridian MAX 4 Overview*

For more information on the hardware and software that operate in conjunction with Meridian MAX - IPE, refer to the following Nortel documents:

- P0735303 *Option 11—X11 Software Guide, Including Supplementary Features*
- 553-3011-200 *Option 11 General Installation and Planning Guide — Read Me First*
- 553-3011-210 *Option 11 Installation Guide*
- 553-3011-300 *Option 11 Administration Guide*
- 553-3001-200 *System Option 21, 51, 61, 71 System Installation Procedures*
- 553-3001-500 *System Option 21, 51, 61, 71 General Maintenance*
- 553-3001-305 *X11 Features and Services* *
- 553-3001-400 *X11 Input/Output Guide*
- 553-2311-105A2 *Appendix to Features and Services for Generic X11 Supplementary Features* *
- 553-2311-311 *X11 Data Administration Input/ Output Guide Including Supplementary Features* *
- 553-2301-511 *X11 Maintenance Input/Output Guide Including Supplementary Features* *

* This document also used for Generic X11 International software.

Reference to NAC documents

Additional information about NAC is contained in the following Nortel documents:

- P0724352 *NAC 2 Supervisor's User Guide*
- 553-4011-110 *NAC 2 Installation Guide (P0724340)*
- 553-4011-510 *NAC 2 System Administration and Maintenance Guide (P0724342)*

- 553-4011-100 *NAC 1 Installation*
- 553-4011-500 *NAC 1 Operations*
- 553-4011-800 *NAC 1 System Messages*
- P0743022 *NAC 1 Supervisor's User Guide*

Reference to other ACD documents

Other Nortel ACD documents associated with Meridian MAX are listed below:

- 553-2671-100 *ACD Basic Features Description (Package A)*
- 553-2671-101 *ACD Advanced Features Description (Package B)*
- 553-2671-102 *Management Reports Description (Package C1)*
- 553-2671-103 *ACD Load Management Description (Package C2)*
- 553-2671-104 *ACD-D General Description (Section 3 only)*

The following Nortel documents refer to Customer Controlled Routing (CCR):

- 553-3201-110 *Application Module Overview Guide*
- 553-3201-200 *Application Equipment Module Installation Guide*
- 553-3201-210 *Application Module Installation and Upgrade Guide*
- P0729367 *Customer Controlled Routing (CCR) User Guide*

Chapter 1: Meridian MAX overview

Meridian MAX

Meridian MAX is a call center application that provides a Management Information System (MIS) for Meridian 1 ACD. As an automatic call distribution (ACD) MIS product, Meridian MAX collects and records information on the calls that enter the Meridian 1. Meridian MAX provides both real-time statistics displays, historical reporting on the call center operation, and ACD configuration management. This information is available to Meridian MAX supervisors who monitor and improve system operations when required.

Automatic call distribution

Automatic call distribution (ACD) is a system used by organizations that receive a large volume of telephone calls for services rather than individuals. ACD is designed to allow a group of operators, called agents, to accept a large number of calls. ACD controls the call flow to ensure efficient handling by competent agents.

The Meridian 1 ACD system automatically routes calls so they are answered in the order of arrival and ensures the workload is equally distributed among agents.

ACD-DN

An automatic call distribution-directory number (ACD-DN) is a queue where incoming calls wait to be answered by the first available agent assigned to that queue. A single ACD system can have several ACD-DNs, and each ACD-DN can have several agents assigned to it.

CDN

A Control Directory Number (CDN) is a special directory number configured in a Meridian 1 system to which no agents are assigned. Several CDNs can direct calls to the same ACD queue where different treatments can be given to each of the CDN calls. The treatment given to a call, such as recorded announcements or music, is determined by the parameters of the CDN, not the ACD queue.

Calls to the CDN can be controlled by a Customer Controlled Routing (CCR) script. A call script is directly associated with a CDN; therefore, all calls entering a CDN are handled by the same call script. If CCR is not enabled, calls are placed into the default mode of the CDN.

> ***Note:*** The CCR application may not be available in some countries. Contact your Nortel representative for clarification.

Meridian 1

Statistics related to ACD agent, queue, and trunk activity are gathered by the Meridian 1 and sent continuously to an auxiliary processor across a High-Speed Link. Messages received from the Meridian 1 translate into many intertask messages which are used to drive the Meridian MAX configurations.

Meridian MAX is connected to a Meridian 1 through a Serial Data Interface (SDI) port. Both the Meridian MAX and the Meridian 1 share the ACD functions.

With Meridian MAX, the Meridian 1 is responsible for

- ACD call processing
- ACD agent and supervisor telephones management
- Meridian 1 administration and maintenance from the maintenance TTY
- Configuration Control option access through Meridian MAX
- ACD information transmission to the Meridian MAX
- Communication maintenance with the Meridian MAX

Software requirements

Meridian 1 must be running on a minimum of X11 domestic Release 16 for Option 11 and Release 17 for Option 21–81. International users must have a minimum of X81 Phase 7B for Option 11–81.

> ***Note:*** The Combined Call Abandon Reporting and Night Call Abandon Count Reporting features require X11 Release 19 or higher. The Multiple Queue Assignment (MQA) feature requires X11 Release 21.16 or higher.

Meridian MAX functions

Meridian MAX is responsible for the following tasks:

- receiving agent, queue, and trunk status data from Meridian 1; calculating the necessary statistics; storing data for past-performance reports; and displaying data for current-performance displays
- generating and printing all performance reports
- scheduling and creating report definitions
- managing current performance display screens
- managing all terminal interactions (examples include logon, logoff, and menu selection)
- managing the various parameters that are set up by the system administrator

Supervisors

Supervisors deal with agent-customer transactions and assist their agents. Through their workstations, supervisors can display information about the agents they supervise and the queues to which the agents are assigned. Depending on their profiles, supervisors can display agent and queue information for the entire system. Supervisors can print predefined management reports or create their own ad hoc report formats. Supervisors can also monitor agents and other supervisors.

System administrator

The system administrator oversees the functions of the ACD system, along with its staff and facilities. The system administrator is responsible for the functions available through the supervisors' workstations, the definition of management reports, and their printing schedules. Based on the information these reports provide, the system administrator can reconfigure the system to maximize its performance.

Meridian MAX workstation

The supervisor or system administrator workstation is equipped with a terminal. A terminal consists of a color or monochrome screen and a typewriter-style keyboard. The keyboard is used to enter information and to choose options from a series of menus displayed on the screen. The menus, options, prompts, and messages that appear on each screen guide the user through Meridian MAX. Help screens are available for assistance.

Current statistics can be displayed at each supervisor's workstation. The data covers ACD activity over a 10-minute period just prior to the last screen update. This screen data is updated every 10, 20, or 30 seconds depending on the setting in the supervisor's profile. Past-performance reports can also be printed or displayed at the supervisor's workstation.

With the dial-up supervisor feature, the Meridian MAX workstation can be connected to the system through modems.

> ***Note:*** Not all options and applications are available in all countries. Contact your Nortel representative for details.

Management reports

Meridian MAX collects statistics on the performance of the customer's equipment and personnel. Using the comprehensive reporting features in Meridian MAX, desired information can be displayed or printed in the format that best suits the user's needs.

Meridian MAX comes with a series of predefined management reports which provide all inclusive call center information.

The Report Customization feature allows the supervisor to alter the format and content of predefined reports or create new reports to fulfill a specific reporting need.

The Graphic Report feature allows information to be displayed in one of several different graphic formats. This feature is useful in illustrating information such as system performance trends.

For more information, refer to the "Management reports" chapter.

Meridian MAX 7 new features

Meridian MAX 7 is built upon the feature content, operations, and capabilities of Meridian MAX 6. The new features in Meridian MAX 7 are

- Multiple Queue Assignment (MQA)
- MAX Status Interface (MSI)

The following features have been enhanced in Meridian MAX 7:

- night calls abandoned
- agent consult state
- LAN parameters (subnet mask and default router/gateway address)
- position event log

Meridian MAX features

For a complete list of the Meridian MAX features, refer to the "Meridian MAX features" chapter.

Disclaimer

Not all options and applications are available in all countries. Contact your Nortel representative for details.

Hardware platforms

Meridian MAX 7 is available on two hardware platforms: SNN and IPE. Table 1-1 describes the platforms and their components.

Table 1-1
Meridian MAX 7 platform compositions

System type		CPU	Mass Storage Unit (MSU)	
Abbreviation	**Module type**	**Card type**	**Hard drive**	**Cassette drive**
SNN	Single	MVME167-34	1.2 Gbyte	600 Mbyte
IPE	IPE	SMM167	180 Mbyte or 240 Mbyte*	155 Mbyte or 600 Mbyte
* The 240-Mbyte hard disk is configured and recognized by the software as a 180-Mbyte hard disk.				

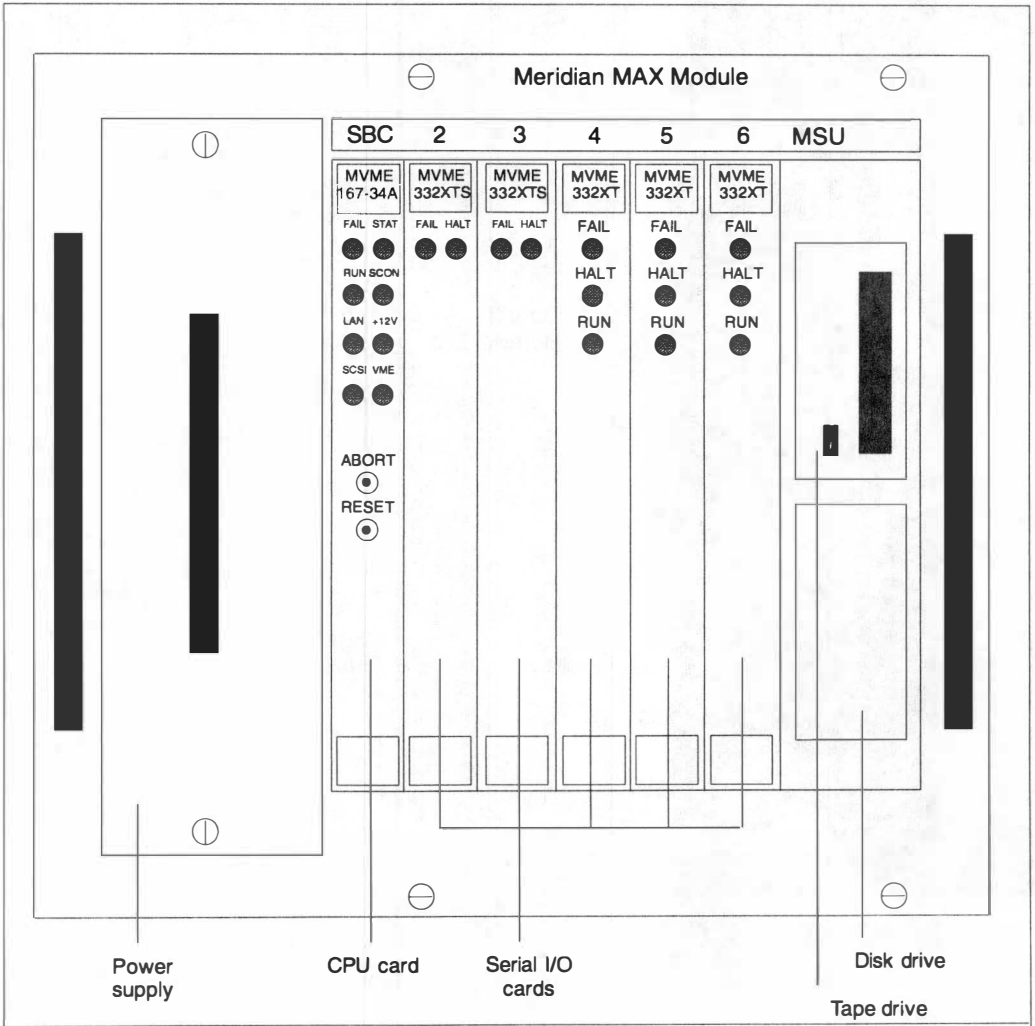
The type of hardware platform which you have determines the Meridian MAX 7 features available to you. Features are common to both hardware platforms unless otherwise specified.

For more information on the system capacities of both platforms, refer to the "Capacities" chapter.

Hardware overview

Figure 1-1 shows a Meridian MAX application module configured for the SNN hardware platform.

Figure 1-1
Meridian MAX application module—SNN system



Note: The card configuration of your system may differ.

Figure 1-2 shows a Meridian MAX IPE module containing a 600-Mbyte tape drive.

Figure 1-2
Meridian MAX IPE module containing a 600-Mbyte tape drive—front view

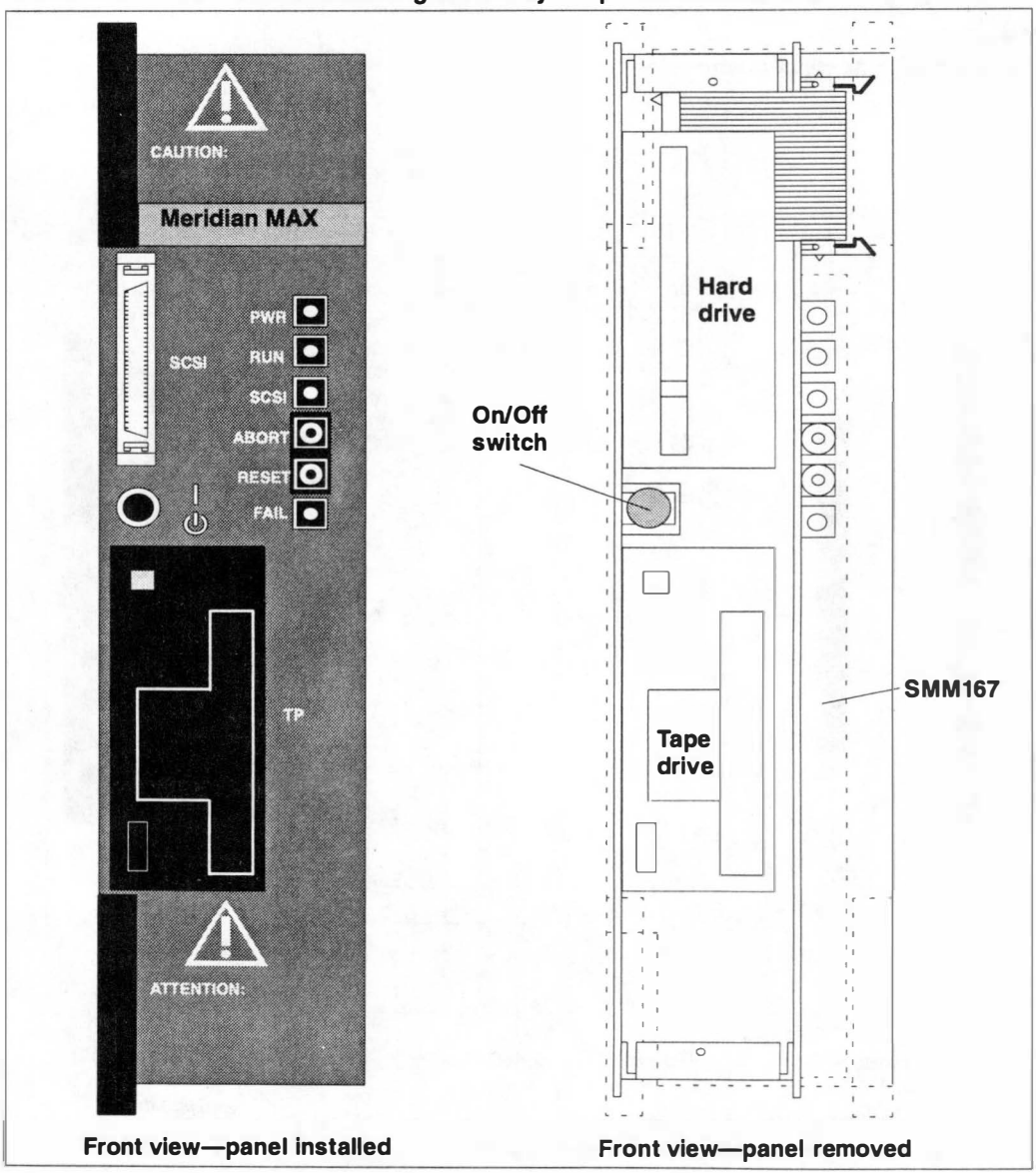
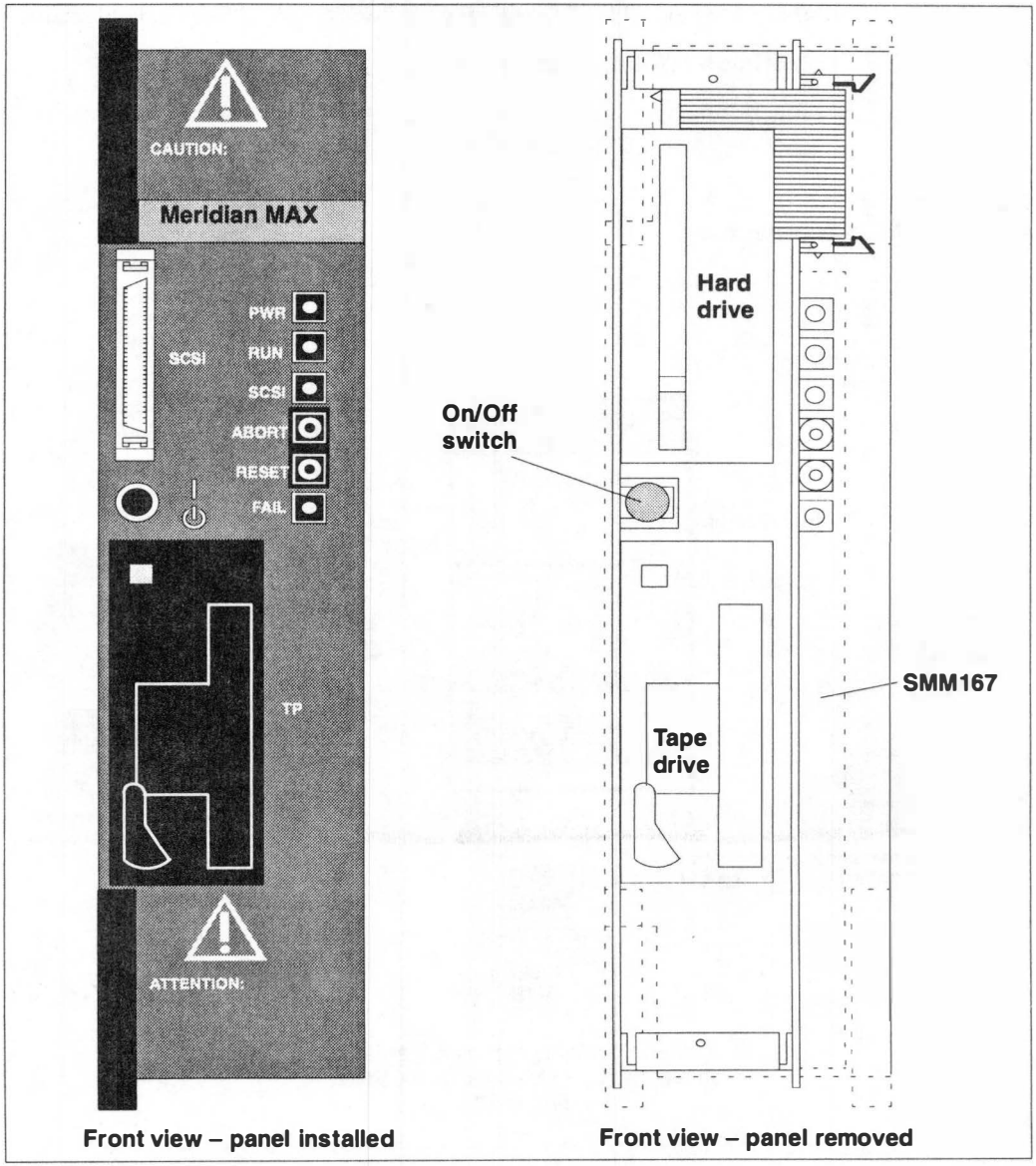


Figure 1-3 shows a Meridian MAX IPE module containing a 155-Mbyte tape drive.

Figure 1-3
Meridian MAX IPE module containing a 155-Mbyte tape drive—front view



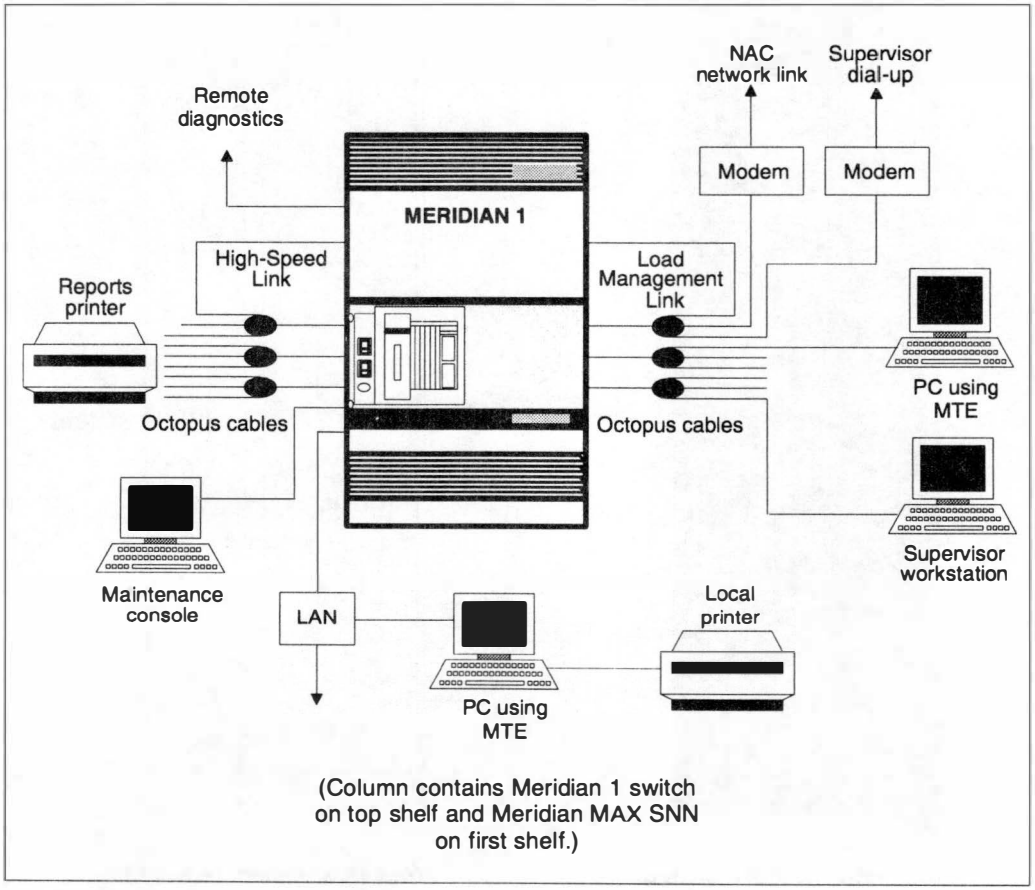
System layout

The following three figures show how the system equipment is interconnected. The actual layout of your site may differ. For more information, refer to the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), "System Preparation" chapter, "Site Layout" section.

Meridian MAX application module

Figure 1-4 shows a simplified overview of the hardware layout for a Meridian MAX SNN installation.

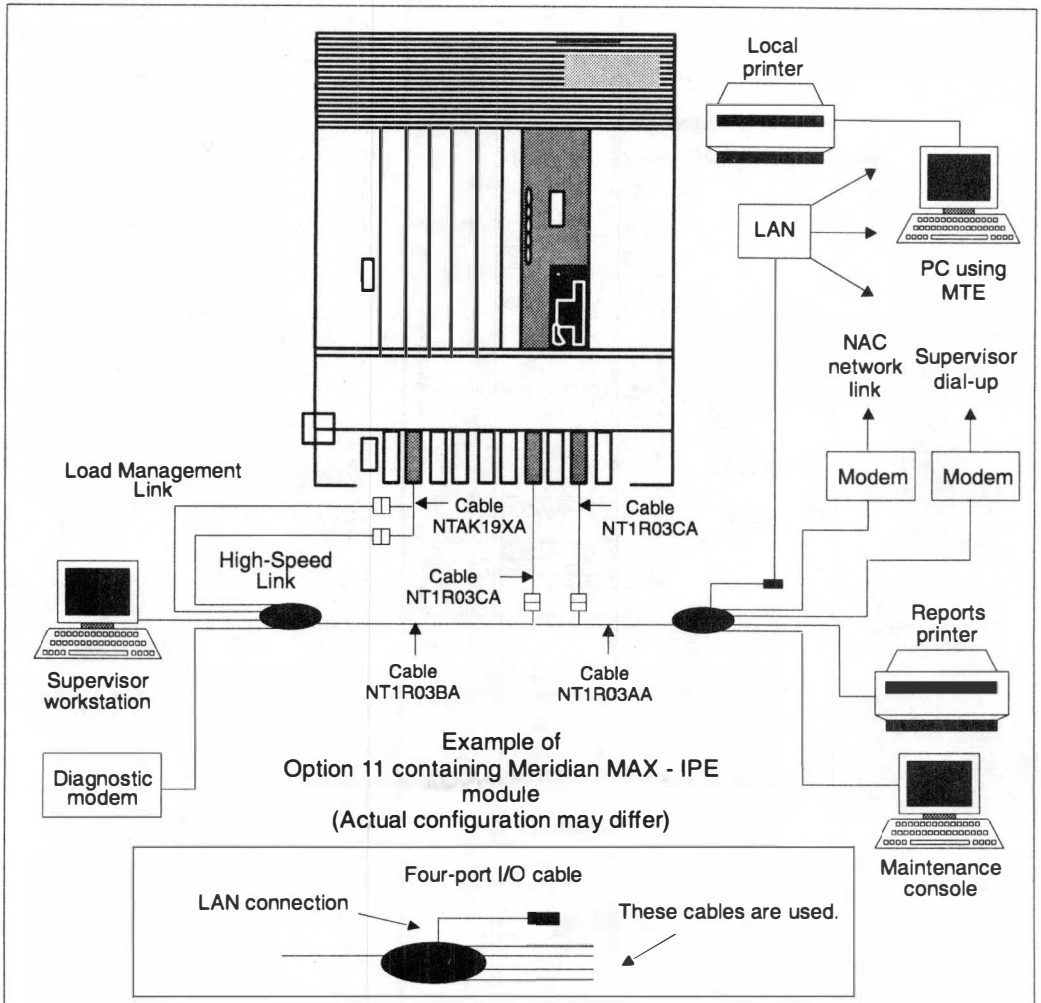
Figure 1-4
Meridian MAX SNN installation



Meridian MAX IPE Option 11

Figure 1-5 shows an overview of the hardware layout for a Meridian MAX IPE Option 11 unit installation.

Figure 1-5
Meridian MAX IPE Option 11 overview

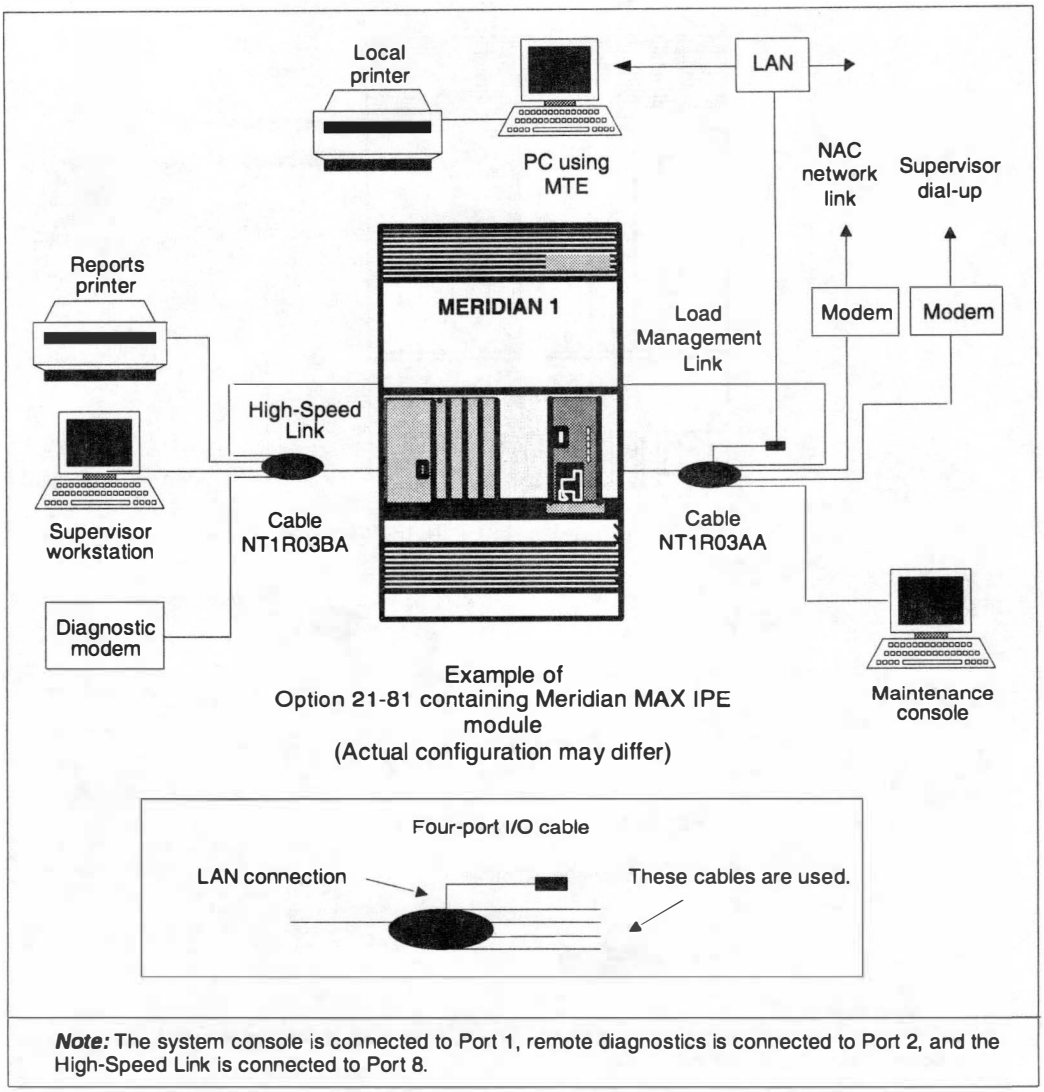


Note: The system console is connected to Port 1, remote diagnostics is connected to Port 2, and the High-Speed Link is connected to Port 8.

Meridian MAX IPE Option 21–81

Figure 1-6 shows a simplified overview of the hardware layout for a Meridian MAX IPE Option 21–81 unit installation.

Figure 1-6
Meridian MAX IPE Option 21–81 overview



Note: The system console is connected to Port 1, remote diagnostics is connected to Port 2, and the High-Speed Link is connected to Port 8.

System upgrades

In order to upgrade to a Meridian MAX 7 system, your current system must be one of the following:

- Meridian MAX 6 SNN system
- Meridian MAX 6 SEE system
- Meridian MAX 6 IPE system
- Meridian MAX 5 SNN system
- Meridian MAX 5 SEE system
- Meridian MAX 5 IPE system
- Meridian MAX 4.6 IPE system
- Meridian MAX 4 single-module system
- Meridian MAX 4 dual-module system
- Meridian MAX 3 single-module system
- Meridian MAX 3 dual-module system

If your Meridian MAX system is not listed above, an upgrade to one of these appropriate systems must be performed before upgrading to Meridian MAX 7.

If your system is an ACD-MAX 3, 4, or ACD-D system, you must upgrade to a Meridian MAX 6 SNN or IPE system before upgrading to Meridian MAX 7. Contact your Nortel representative for more information.

Your current system determines the Meridian MAX 7 systems to which your system can be upgraded. Certain upgrades can also be performed between the two Meridian MAX 7 hardware systems (SNN or IPE).

Some upgrades within the same Meridian MAX 7 hardware system only require a software change using the Load New Software Release procedure. For more information, refer to *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), "Loading a new software release" chapter or "Software reinstallations and upgrades" chapter. You can also check any bulletins shipped with your new software.

Upgrade paths

Table 1-2 lists the systems that can be upgraded to Meridian MAX 7, their applicable upgrade paths, and if a change in hardware is required. If no hardware change is required, only a software installation needs to be performed. Upgrades within Meridian MAX 7 are also included in this table.

Table 1-2
Meridian MAX 7 upgrade paths

Current system	Possible Meridian MAX 7 system migrations	Hardware changes
Meridian MAX 7 SNN	SNN 7	No
Meridian MAX 7 IPE	SNN 7 IPE 7	Yes No
Meridian MAX 6 SNN	SNN 7	No
Meridian MAX 6 SEE	SNN 7 IPE 7	Yes Yes
Meridian MAX 6 IPE	SNN 7 IPE 7	Yes No
Meridian MAX 5 SNN	SNN 7	No
Meridian MAX 5 SEE	SNN 7 IPE 7	Yes Yes
Meridian MAX 5 IPE	SNN 7 IPE 7	Yes No
Meridian MAX 4.6 IPE	SNN 7 IPE 7	Yes No
Meridian MAX 3 or 4 single-module	SNN 7 IPE 7	Yes Yes
Meridian MAX 3 or 4 dual-module	SNN 7	Yes

If your current system is a Meridian MAX 7, refer to the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), "Software overview" chapter, for more information.

If your current system is a Meridian MAX 3, 4, 4.6, 5, or 6 system, refer to the *Meridian MAX 7 Installation Upgrade Guide for Meridian MAX 3 through 6 Systems* (NTP 553-4001-210) for more information.

Keycodes

During any Meridian MAX 7 installation or upgrade, you are required to enter a 20-character alphanumeric keycode. This keycode represents your system options and Meridian 1 serial number. These options are then displayed on the screen for verification during the installation or upgrade.

All keycodes are obtained from your Nortel distributor. Any change in system options requires the generation of a new keycode. Once you have your updated keycode, your current application tape is used to update your system options. Any application tape can be used with any hardware platform provided the Meridian 1 serial number is the same.

Options and features can also be updated through maintenance using the *"Keycode Options Update"* menu item. The system asks for a keycode, decodes it, and displays the options it represents on the screen. If the installation of the keycode options does not require an installation upgrade, the user is given the choice of installing the displayed options or aborting the procedure. For the option changes to take effect, the Meridian MAX must be shut down and restarted.

The user can perform the following through a keycode options update:

- change the Meridian 1 serial number
- change the maximum number of position IDs
- change the number of LAN supervisor sessions (if non-zero)
- enable Configuration Control
- enable Formula Definition
- enable data stream reporting
- enable Meridian Terminal Emulator

Note: An installation upgrade must be performed to either install or remove any purchasable option not listed above. Refer to the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), "Software installation overview" chapter, for more information.

For more information on keycodes, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, or "Maintenance and administration programs: system shutdown" chapter; or the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), "Software overview" chapter.

Networking

The system's networking feature is designed for call centers with multiple sites spread over a large geographic area. This feature manages and routes the flow of calls between sites so that each call is handled in the quickest, most efficient fashion.

The Meridian 1 NACD MIS option requires Option 178 (Enhanced ACD Overflow) or 207 (Network ACD) to be equipped on the Meridian 1. If the switch has either Option 178 or Option 207, then Meridian 1 NACD MIS must be installed.

NAC connectivity

The NAC connectivity feature covers all components that allow the Network Administration Center (NAC) to communicate or interact with Meridian MAX. Meridian MAX 7 is compatible with both NAC 1 and NAC 2.

> ***Note:*** NAC can only be used if the MSI feature is disabled.

For more information on NAC connectivity, refer to the "Network Administration Center (NAC)" chapter.

MAX Status Interface

The MAX Status Interface (MSI) feature allows Meridian MAX to send queue-based statistical data, collected from the Meridian 1, across the local area network (LAN) to a central real-time load management system. The central system, which is operated from a single workstation, also receives data from other vendors' ACD systems. The data from the Meridian MAX and the other ACD systems is used by the central system to manage the network traffic.

> ***Note:*** MSI can only be used if the MQA and NAC connectivity features are disabled.

For more information on MSI, refer to the "MAX Status Interface (MSI)" chapter.

CCR/EAR

Customer Controlled Routing (CCR) is a flexible call routing application that allows the call center manager to define how ACD calls are treated on an individual call basis and how they are routed through a Meridian 1 system.

Enhanced ACD Routing (EAR) is an X11 software development, introduced in Release 17, that adds functionality to the existing ACD features by providing a Control Directory Number (CDN). EAR requires Option 214 to be installed on your Meridian 1.

If Option 214 (Enhanced ACD Routing) and Option 215 (Customer Controlled Routing) are enabled on your system, you must have the CCR/EAR MIS option enabled on your Meridian MAX 7.

If you have the CCR/EAR MIS option enabled and want it to be fully operational, Option 214 and 215 must be installed on your Meridian 1.

If Option 218 (Hold in Queue for IVR) is installed and reports are wanted for this option, CCR/MIS is required.

X11 and X81 software packaging requirements

Meridian MAX 7 runs on the X11 and X81 software. For Option 11, the X11 software must be Release 16 or higher. For Options 21-81, the X11 software must be Release 17 or higher. The X81 software must be Phase 7B, 7C, or 8B for Options 11-81.

The Combined Call Abandon Reporting and Night Call Abandon Count Reporting features require X11 Release 19 or higher.

The MQA feature requires X11 Release 21.16 or higher.

Packaging requirements

The following Meridian 1 software options are required to use Meridian MAX:

- Basic ACD Features (Package A) Option 40, 45, 83
- Advanced ACD Features (Package B) Option 41, 98, 116
- ACD Reports (Package C1) Option 42
- ACD Load Management (Package C2) Option 43
- ACD Link (MAX/ACD-D) Option 50, 51
- ACD Activity Code Entry Option 155
- Security Option 114
- ACD Timed Overflow Option 111

The Meridian 1 NACD MIS option is required if the following options are equipped on your Meridian 1:

- Enhanced ACD Overflow Option 178
- Network ACD Option 207

The CCR/EAR MIS option is required if the following options are equipped on your Meridian 1:

- Enhanced ACD Routing Option 214
- Customer Controlled Routing Option 215

The MQA option is required if the following option is equipped on your Meridian 1:

- Multiple Queue Assignment Option 297

Chapter 2: Capacities

Hardware-dependent capacities

The Meridian MAX 7 platform which you choose determines the number of ports your system has available for peripheral devices. Table 2-1 lists the number of ports for both platforms.

Table 2-1
Meridian MAX 7 platform port capacities

Platform	Number of ports
SNN	8/16/24/32/40
IPE	8

Port assignment

Not all ports need to be assigned on your Meridian MAX, but there are several ports that are preconfigured for a specific device and cannot be changed.

All systems must have one printer and one direct-connect supervisor workstation configured and connected.

Supported workstations

The following workstations are supported for Meridian MAX 7:

- DEC VT220 or 100% compatible (North American and Worldwide)
- DEC VT420 or 100% compatible (North American and Worldwide)
- DEC VT520 or 100% compatible
- HP 700/32 or 100% compatible
- IBM PC or 100% compatible AT, running the terminal emulation software, Reflection 4+ for DOS

- IBM PC or 100% compatible AT, or higher running MTE. MTE allows you to access Meridian MAX supervisor sessions through your PC.

  Note: Supported terminals include the North American and Worldwide models of the VT420 with international keyboards. The DEC VT320 is equivalent to the DEC VT420.

Meridian MAX and MTE

In a DOS or Windows environment, MTE 5.32 or lower has all the functionality of Reflection 4+ with the following capabilities:

- print data to an ASCII file
- print to a local printer attached to your PC
- connect to Meridian MAX through a local area network (LAN), a modem, or a serial (RS-232) port
- customize the colors of the elements on your supervisor screens

In a Windows environment, MTE 6 or MTE 7 can also be used to

- copy text from your Meridian MAX supervisor screens to your Windows clipboard
- run Meridian MAX supervisor sessions simultaneously with the MAXcaster forecasting tool
- open two Meridian MAX supervisor sessions on a PC running Windows NT or Windows 95
- change the size of the font used in the Meridian MAX supervisor screens

MTE 7 also provides multiple-language support and allows you to automate frequently used key sequences using programmable buttons.

For more information, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Workstation configuration" chapter.

Supported printers

The following printers are supported by Meridian MAX 7:

- DEC LA195
- HP RuggedWriter
- HP LaserJet series II
- HP LaserJet series III
- HP LaserJet series 4
- HP LaserJet series 4 Plus
- HP PaintJet 3630
- HP DeskJet
- HP DeskJet 500
- HP DeskJet 560C (with serial-parallel converter)
- HP DeskJet 660C

For local printing, the local printer must be connected to a PC running Meridian Terminal Emulator (MTE) software.

For more information on port assignment, refer to the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), "Printers" chapter.

System capacities

The Meridian MAX's capacity is controlled by two factors: software and hardware. The software controls the amount of detailed historical information collected by the system. The hardware sets an absolute limit to the amount of information that can be processed or stored.

Table 2-2 lists the general system limitations for Meridian MAX 7. Table 2-3 lists the basic ACD parameter limits that correspond to the Meridian 1 ACD system limits.

Where there are different limits for either platform, the row is separated. Where the limits are the same for both platforms, the row is combined.

For more information on Meridian MAX 7 capacities, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Meridian MAX system" chapter.

Table 2-2
General Meridian MAX 7 limits

System parameter	IPE	SNN
Supported maximum calls per hour *	5000	15 000
Historical data database — available disk space (in Mbyte)	90	350
MIS supervisor terminal ports (if no Load Management Link nor network link configured)	5	38
Total printers per Meridian MAX system (system and local)	12	28
System printers (connected directly to Meridian MAX)	2	8
Local printers **	10	20
Total simultaneous active MIS supervisor logins	20	60
Simultaneous active MIS supervisor logins via LAN	19***	59***
Simultaneous supervisor logins via direct connection	5	38
Total number of ACD-DNs which an agent can service simultaneously, if MQA is enabled	5	5
MIS supervisors	240	

* The Meridian MAX 7's maximum call capacity of 15 000 simple calls per hour can be achieved under the following conditions:

- Meridian MAX is running on the MVME167 CPU card.
- Each call generates a maximum of five ACD messages beginning when the call enters the queue, is answered by an agent assigned to the queue, and is then released by the agent (systems using NACD and/or CCR do not satisfy this criterion).
- All supervisors have their display update rate set at 30 seconds.
- Historical data is captured only once per interval (no ad hoc reports are initiated during the interval).
- Only one report, based on the previous interval, is generated at a time.
- Midnight processing is not active

** Only one local printer is allowed per supervisor workstation with MTE.

*** One MIS supervisor connection must be direct. As a result, the number of Active LAN Supervisor Logins is one less than the maximum for Active MIS Supervisor Logins.

Table 2-3
Basic ACD parameter limits (corresponding to Meridian 1 ACD limits)

System parameter	IPE	SNN
ACD queues (of all types)	100	240
ACD queues MAX sends data on over the MSI link	64	64
Agent and supervisor positions	200	1200
ACD supervisors	100	240
ACD agents	500	2400
Routes (of all types)	128	256
Trunks (of all types)*	1330	2000
DNIS	1000	5000
Activity codes	500	1000

*A trunk is a combination of the route number and the route member number. Route member number 0 (zero) is used as a dummy route number when the Detailed Trunk Level Reporting is disabled.

Note: Position sizing allows the number of supervisor and agent positions to be increased to the system maximum described in Table 2-3. To change the number of positions, a new keycode must be entered through maintenance. For more information on keycodes, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter or "Maintenance and administration programs: system shutdown" chapter.

Chapter 3: Meridian MAX features

Note: Not all options and applications are available in all countries. Contact your Nortel representative for details.

Agent Status Display

The Agent Status Display provides real-time status information on all queues being serviced by the agents.

If the Multiple Queue Assignment (MQA) feature is installed, an agent can service up to five queues simultaneously. These queues can be displayed for each agent, sorted by position or ACD-DN. If MQA is disabled, the agent can service only one queue at a time. This single queue data is displayed by ACD-DN.

The agent status displays can be viewed in two ways. The global view shows information on all agent positions in the system. The supervisor view shows the real-time status on all agents assigned to a specific supervisor.

For more information on Agent Status Display, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Agent Status Display" chapter.

Calls abandoned reporting

Meridian MAX 7 offers two methods to generate data on abandoned calls: Night Call Abandon Count Reporting (NCACR) and Combined Call Abandon Reporting (CCAR).

The NCACR feature collects only calls abandoned at an ACD-DN in night service mode and pegs this information into a specific data field.

The CCAR feature collects both day and night calls abandoned and pegs the data into specific fields. The CCAR feature, which was called Night Call Abandon Reporting in Meridian MAX 6, can be enabled or disabled by the user.

All of these fields can be used in reports to analyze the call traffic generated during and after business hours. To access these features, your switch must be equipped with X11 Release 19 or higher.

For more information on calls abandoned reporting, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Report statistics groups" chapter, "Collecting calls abandoned" section.

Capacity Configuration

Capacity Configuration is used to define specific data storage configurations that meet your Meridian MAX reporting requirements. These configurations are defined prior to an installation or upgrade and implemented during these procedures. This feature allows customer-defined limits that are not only applied to the amount of historical data storage, but also to the amount of ACD data that is being presented on the real-time statistics displays.

For more information on Capacity Configuration, refer to the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), "Meridian MAX system configuration" chapter.

Color Customization

The Color Customization feature allows you to customize the colors of all screen elements. The feature is accessed through a function key on the Profile Maintenance screen or the Supervisor Definition screen. This feature is only available on PCs running Meridian Terminal Emulator.

For more information on Color Customization, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Color Customization" chapter.

Configuration Control

The Configuration Control feature allows you to make changes to the following options:

- position assignments and parameters
- overflow threshold values
- overflow and interflow targets
- recorded announcements
- night service parameters
- trunk assignments
- CDN parameters (if CCR option enabled)
- change orders and lists
- Change Day Routing Tables (if NACD option enabled)
- Change Night Routing Tables (if NACD option enabled)

The Configuration Control feature also allows you to update the Meridian MAX with the Meridian 1 switch data, view the transaction log, and alter miscellaneous parameters.

For more information on Configuration Control, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Configuration Control" chapter.

Data stream reporting

Data stream reporting provides a report output stream, allowing application providers a means to electronically capture Meridian MAX report data for use in other applications. The capturing of the data by the third party application is not included in this feature. Only tabular and event log reports can be generated to the data stream output device.

For more information on data stream reporting, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Data stream reporting" chapter.

Dial-up supervisor

The dial-up supervisor feature connects the Meridian MAX with a supervisor workstation via modems. This feature allows you to set up supervisor workstations away from the Meridian MAX site. For example, you can set up a remote supervisor workstation in a building other than the building where the Meridian MAX system is housed.

For more information on dial-up supervisor, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Remote activities" chapter.

Display Definition

Display Definition allows supervisors to define the content and formats that are displayed within the queue statistics displays.

For more information on Display Definition, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Display Definition" chapter.

DNIS Definition

The Dialed Number Identification Service Definition (DNIS) feature allows a name and service level threshold to be assigned to each three- or four-digit DNIS number. This number is displayed on the agent's screen and helps determine how an incoming call is handled. For example, the number 5555 may indicate a sales call, while 9999 may be a customer inquiry. The maximum number of DNIS definitions is 5000 on an SNN system and 1000 on an IPE system.

For more information on DNIS Definition, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Parameter Administration" chapter, "DNIS Definition" section.

Formula Definition

Formula Definition (also referred to as Custom Calculator) allows supervisors to define new formulae for custom reports or custom displays. Report formulae can be used in graphic and tabular report formats, which are used in the Report Parameter Definitions, in the same way that standard fields are used. Display formulae can be used in graphic and tabular queue statistics displays.

For more information on Formula Definition, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Custom Calculator" chapter.

Graphic Format Definition

Graphic Format Definition is used to design new graphic report formats or modify existing formats.

For more information on Graphic Format Definition, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Report Definition" chapter.

High-Speed Link status indicator

If the High-Speed Link information flow is interrupted, the clock at the upper right corner of an active supervisor workstation is highlighted. This highlighted status indicates that the Meridian MAX is not receiving information from the Meridian 1.

For more information on the High-Speed Link status indicator, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "User interface" chapter.

International language support

International language support ranges from the ability to enter language specific strings to the ability to print a report with international characters. The characters entered must be in the ISO Latin 1 character set. A maximum of two languages is allowed per system, one of which must be English.

For more information on international language support, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "International language support" chapter.

LAN-based supervisor workstations

Meridian MAX 7 provides Ethernet connectivity for supervisor PC workstations via the industry standard TCP/IP protocol provided by MTE.

This connectivity increases the number of active supervisor sessions and accommodates call centers that have a local area network (LAN) infrastructure in their current environment. A token-ring environment is also possible via customer supplied protocol converters.

For more information on LAN-based supervisor workstations, refer to the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), "LAN connectivity with MTE and MSI overview" chapter.

LAN parameters

Meridian MAX 7 provides the ability to change the subnet mask and default router/gateway address during installation and while the system is shut down.

For more information on the subnet mask and default router/gateway addresses, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553- 4001-811), "Maintenance and administration programs: system shutdown" chapter, "Configure Meridian MAX system" section, "System Parameters" subsection.

List Management

The List Management feature allows supervisors to create lists of similar elements to use in the Configuration Control or the Report Parameter Definition features. This feature allows groups of elements to be collectively viewed, changed, or printed. Up to 200 elements can be included in a list and a maximum of 250 lists can be created.

These elements can be ACD-DNs, positions, trunks, routes, agents, DNIS, activity codes, supervisors, or queues. If the CCR option is enabled, CDN lists can be created. If the NACD option is enabled, node lists can be created.

For more information on List Management, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "List Management" chapter.

Local printing to PC-based supervisor workstations

The local printing feature provides the user with the ability to send a report to a printer locally attached to a supervisor's PC workstation running MTE.

For more information on local printing, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Local printing" chapter.

Locate Agent on Agent Status Display

Locate Agent on Agent Status Display feature allows the supervisor to search for a specific agent through position ID, agent ID, or agent name.

For more information on Locate Agent on Agent Status Display, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Agent Status Display" chapter.

MAX Status Interface

The MAX Status Interface (MSI) feature allows Meridian MAX to send queue-based statistical data, collected from the Meridian 1, across the LAN to a central real-time load management system. The central system also receives data from other vendors' ACD systems. The data, from the Meridian MAX and the other ACD systems, is used by the central system to manage the network traffic. For more information on MSI, refer to the "MAX Status Interface (MSI)" chapter.

Note: The MSI feature can only be used if MQA and the NAC connectivity features are disabled.

Monitor Another Supervisor

The Monitor Another Supervisor feature allows supervisors to view the displays and reports generated by any other supervisor in the system. The Monitor Mode in the supervisor profile must be enabled before this feature can be used. Usually, the system administrator determines which supervisors have this option enabled.

For more information on Monitor Another Supervisor, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Monitor Another Supervisor" chapter.

Multiple Queue Assignment

The Multiple Queue Assignment (MQA) feature allows an agent to service up to five queues simultaneously. Each queue can be given a different priority. For example, agents may serve an English customer service queue as a high priority but serve a similar French queue at a lower priority if they are less fluent in French.

The agents can also assign themselves to a specific supervisor and log into any telephone set. The supervisors, agents, and priorities assigned to an ACD-DN can be monitored and reassigned through the agent status displays.

There are several requirements to using MQA with Meridian MAX. These requirements include the following:

- The minimum system requirements to use MQA are Meridian MAX 7 and X11 Release 21.16 or higher.

- You must have one of the following Meridian Modular telephone sets: M2008, M2216, or M2616 with Special Application Displays modules. Other sets are supported in MQA environments, but they are restricted to single-queue operation as assigned through the administration interface or via Meridian MAX Configuration Control. The supported displays are NT2K25YL, NT2K28AA, NT2K26XJ, NT2K27XJ, NT2K5VH, and NT2K24SA.
- MQA and MSI cannot be enabled at the same time.

For more information on MQA, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Meridian MAX system" chapter, "Meridian MAX 7 new features" section.

NAC connectivity

The NAC connectivity feature covers all components that allow the Network Administration Center (NAC) to communicate or interact with Meridian MAX. Meridian MAX 7 is compatible with both NAC 1 and NAC 2. For more information on NAC connectivity, refer to the "Network Administration Center (NAC)" chapter.

Note: NAC connectivity can only be used if the MSI feature is disabled.

Online port assignment

Supervisor workstations and printers can be added or deleted while the system is running. The system does not have to be shut down in order to make these changes.

For more information on online port assignment, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter or "Maintenance and administration programs: system shutdown" chapter.

Parameter Administration

The Parameter Administration feature allows supervisors to set the user-defined parameters for their Meridian MAX. Access to Parameter Administration is restricted to supervisors with system administration privileges. These parameters include thresholds, names given to various data elements in reports and displays, and several other options. More than one system administrator can be defined per system.

For more information on Parameter Administration, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Parameter Administration" chapter.

Queue Statistics Display

The Queue Statistics Display feature gives an overall indication of how the call center is performing. Each of the six standard displays contained within the Queue Statistics Display shows statistics on the queues in the system.

The Queue Statistics Display feature has two views—supervisor and global. The global view shows the ACD-DN statistics, by number or name, for the whole system. The supervisor view shows the ACD-DN statistics, by number or name, that are assigned to the supervisor.

For more information on Queue Statistic Display, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Queue Statistics Display" chapter.

Remote printing

This feature allows a nodal supervisor to send nodal reports to the default printer at the NAC site. It also allows nodal and network supervisors to read the same report simultaneously. This feature is only available when NAC connectivity is enabled.

For more information on remote printing, refer to the *Meridian MAX Supervisor's User Guide* (P0815598), "Remote activities" chapter.

Report Parameter Definition

The Report Parameter Definition feature allows supervisors to define new reports or make changes to existing reports. Up to 500 public report definitions can be created on the SNN platform. The limit is 250 for the IPE platform.

For more information on Report Parameter Definition, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Report Definition" chapter.

Schedule Definition

The Schedule Definition feature allows supervisors to automatically print reports or execute configuration control change orders at specific times. Access to this feature is controlled by the system administrator.

For more information on Schedule Definition, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Schedule Definition" chapter.

Spectrum Definition

The Spectrum Definition feature allows the supervisor to define a maximum of 10 time intervals in the Delay Before Answering and Delay Before Abandoning reports.

For more information on Spectrum Definition, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Report Definition" chapter.

Supervisor Display Access (SDA)

The Supervisor Display Access (SDA) feature provides an extra supervisor display via the system console or the remote diagnostics modem port. This feature is only available on the Meridian MAX - IPE platform.

Supervisors and system administrators access an SDA session through the system console port. The remote diagnostics modem port is reserved for Nortel support.

Once logged in, the SDA session functions identically to other regular display sessions starting from other I/O ports. Only one SDA session is allowed at any one time. Therefore, if an SDA session is started from the system console port, a second SDA session cannot be started from the remote diagnostics modem port.

For more information on Supervisor Display Access, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Getting started" chapter, "Supervisor Display Access (SDA)" section.

Supervisor Messaging

Supervisor Messaging allows MAX and NAC supervisors to issue short messages to other supervisors and administrators (nodal and network) through their workstations. Typically, these messages deal with changes in the normal routines of the Meridian MAX nodes and/or of the NAC.

For example, a node, finding itself short-staffed, might ask the NAC to overflow calls to other nodes.

The NAC supervisor can then issue a message to notify the other nodal supervisors that they can expect heavier call traffic. This feature is only available when NAC connectivity is enabled.

For more information on Supervisor Display Access, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Supervisor Messaging" chapter.

System reports

System reports provide report information describing the current state of the Meridian MAX system and the information defined through Parameter Administration. These reports are available at any time, and can be printed but not displayed on the screen.

For more information on system reports, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "System reports" chapter.

Tabular Format Definition

Tabular Format Definition is used to design new tabular report formats, modify existing formats, and save them as new format definitions.

For more information on Tabular Format Definition, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Report Definition" chapter.

Chapter 4: Network Automatic Call Distribution (NACD)

Some Meridian MAX systems are equipped with the networking option. Network Automatic Call Distribution (NACD) consists of multiple ACD systems. These systems are in contact with each other via the Meridian 1 connected to each Meridian MAX node. Each system location is referred to as a node in the network.

Meridian MAX reports on calls that come into an ACD-DN and are overflowed to another queue in the same system. NACD allows calls to be overflowed to an ACD-DN in another node in the ACD network.

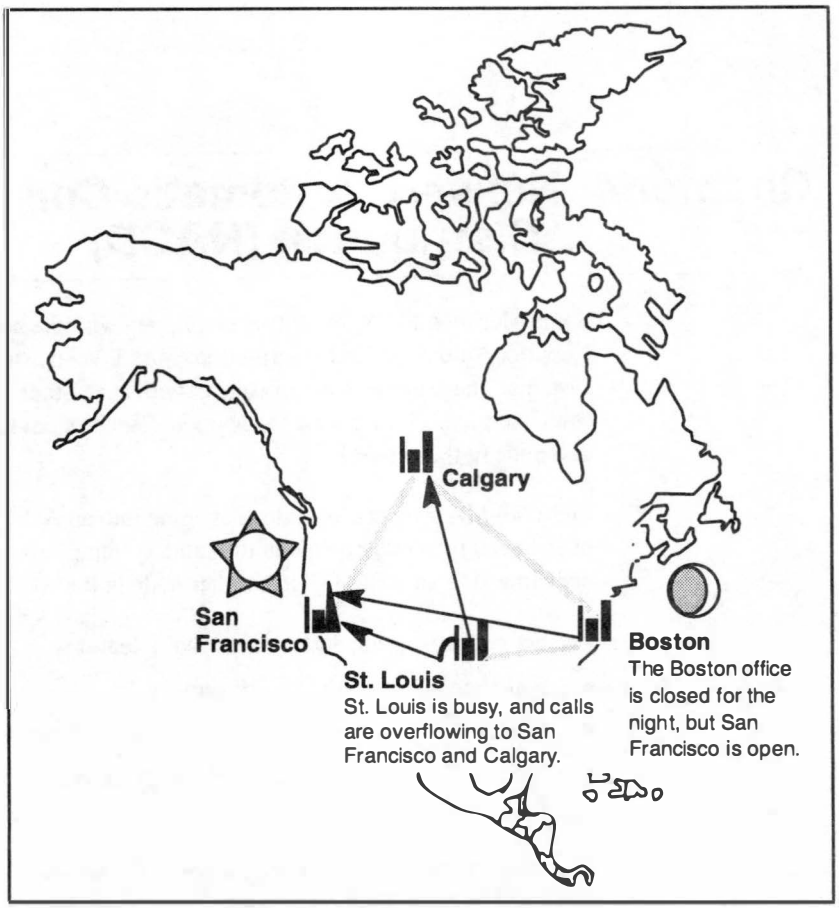
The networking option adds the following features:

- real-time displays of network activity
- historical reports on network activity and performance
- additional configuration control and parameter administration functions

In addition to these new features, some of the standard ACD features are enhanced by the networking option.

Figure 4-1 depicts an NACD application.

Figure 4-1
Meridian 1 network example



In this example, due to the time difference between east and west, calls directed to the closed Boston office are being redirected by the networking option to San Francisco where the office is still open.

Also, in this example, the networking option's function of managing the work load of calls is evident. Calls coming into the busy St. Louis office are redirected to Calgary and San Francisco where calls can be handled more quickly.

Chapter 5: Network Administration Center (NAC)

The Network Administration Center (NAC) is a computerized system that allows organizations with multiple MAX sites, also called nodes, to monitor and supervise all sites from one central location. Each Meridian MAX system connected to the network sends its call data to the NAC on a regular basis. A maximum of 10 nodes can be connected to each NAC system. NAC provides a variety of consolidated reports and status screens using the information accumulated from each node.

Note: NAC can only be used if the MSI feature is disabled.

NAC connectivity

The NAC connectivity feature allows the NAC to communicate or interact with the Meridian MAX system. Meridian MAX 7 is compatible with both NAC 1 and NAC 2.

For more information, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Remote activities" chapter.

NAC features

Several features are available when the Meridian MAX system has NAC connectivity.

Configuration Control

The Configuration Control feature allows NAC supervisors to control the call flow for any or all nodes across the network as needed. Changes made at the NAC end can be implemented immediately or set up in a schedule that implements changes automatically.

For more information on Configuration Control, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Configuration Control" chapter.

Supervisor Messaging

Supervisor Messaging allows network supervisors to issue messages to other supervisors and administrators (nodal and network) through their workstations. Typically, these messages relate to normal routines of the nodes and/or NAC. Both the Meridian MAX and NAC ends support this feature.

For more information on Supervisor Messaging, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Supervisor Messaging" chapter.

Remote supervisor login

Remote supervisor login allows a NAC supervisor to log into any node as a nodal supervisor. Only nodes that are connected to the network can be accessed in this manner.

For more information on remote supervisor login, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Remote activities" chapter, "Remote supervisor login" section.

Consolidated network management

Consolidated network management reports are available on the NAC system. They provide information on current activities and indicate trends within the network. These reports can be used to show the efficiency, cost-effectiveness, and productivity of the entire network.

Real-time statistics

Real-time statistics for queues configured or selected by the NAC are sent to it from the Meridian MAX nodes on a regular basis (for example, every 30 seconds).

Remote printing

Remote printing, available on the Meridian MAX end, allows a nodal supervisor to send nodal reports to the default NAC printer at the NAC site. This feature also allows nodal and network supervisors to review the same report at the same time.

For more information on remote printing, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Remote activities" chapter, "Remote printing" section.

Network connectivity

Figure 5-1 shows a simplified overview of the network connectivity between NAC 1 and its various Meridian MAX nodes. Figure 5-2 shows a simplified overview of the network connectivity between NAC 2 and its various Meridian MAX nodes. Your site's layout may differ.

Figure 5-1
Network connectivity overview with NAC 1

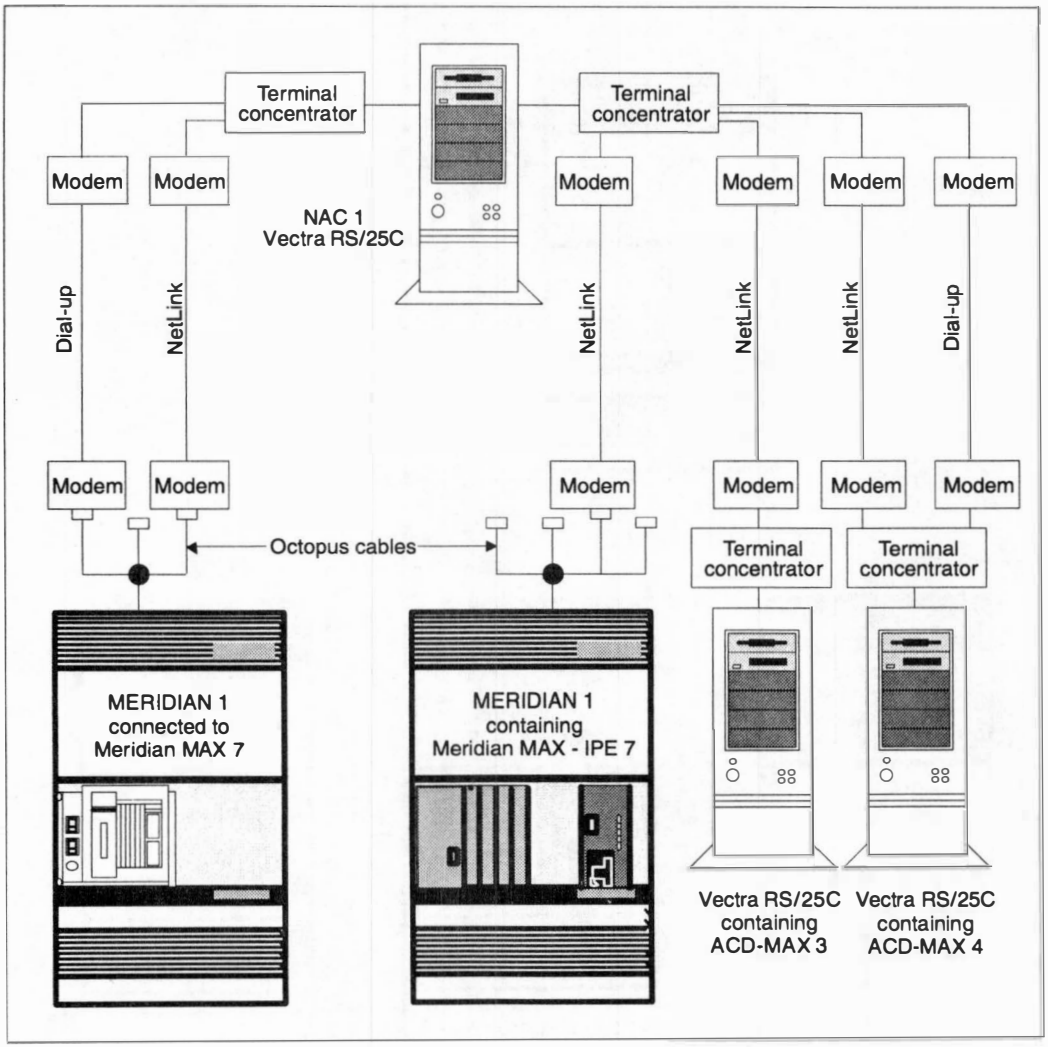
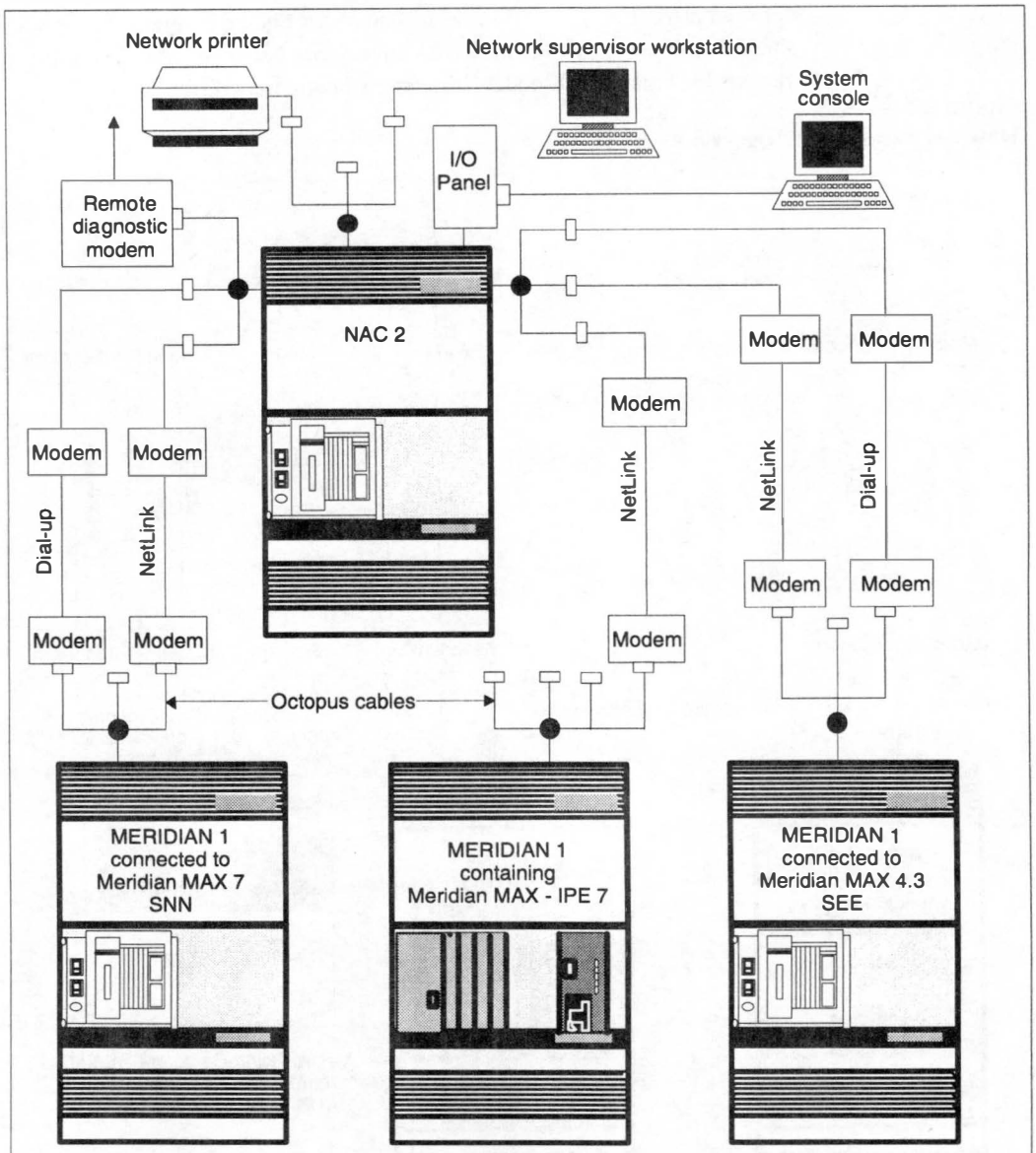


Figure 5-2
Network connectivity overview with NAC 2

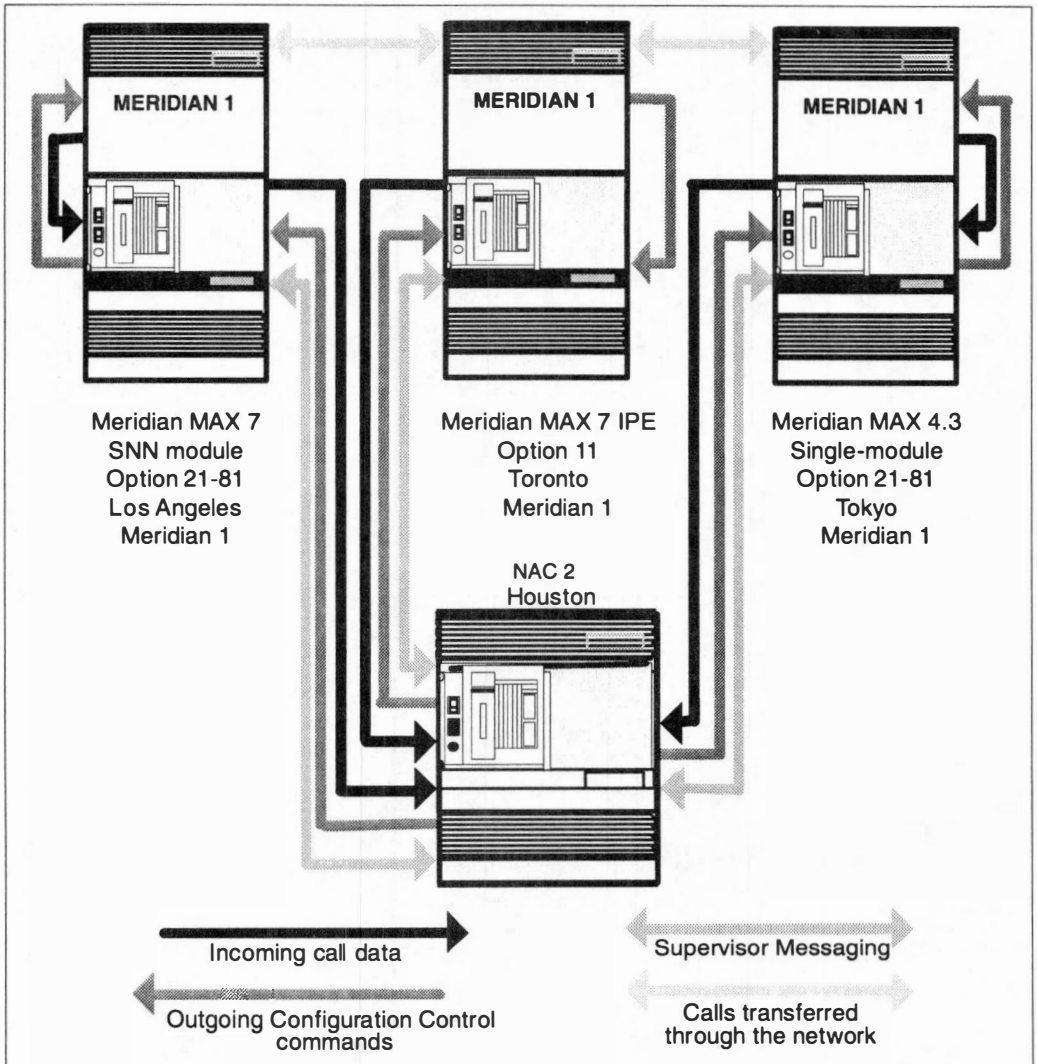


Note: The NAC 2 module can also be in a standalone AEM module.

NAC network data flow

Figure 5-3 shows the NAC network data flow. The data flow for a NAC 1 system is identical to that of a NAC 2 system.

Figure 5-3
NAC network data flow



Note: NAC 1 connectivity is also supported for Meridian MAX 7.

Chapter 6: MAX Status Interface (MSI)

Note: Not all features are available in all countries. Contact your Nortel representative for details.

The MAX Status Interface (MSI) feature allows Meridian MAX to send queue-based statistical data collected from the Meridian 1 across the local area network (LAN) to a central real-time load management system. The central system also receives data from other vendors' ACD systems.

Depending on the central system's capabilities, the data from the different switches can be used in a variety of ways to control network traffic from one location. For example, the system may be able to route calls through the public network to a queue in the ACD, which is best equipped to handle it. It could also create detailed or summarized displays and reports. Contact the central system service representative if any problems are experienced with this system.

While the Meridian MAX system is running, the MSI link can be enabled or disabled through the Miscellaneous Options screen. This screen also provides status on the MSI link. For more information, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Parameter Administration" chapter, "Miscellaneous Options" section.

While the Meridian MAX system is shut down, the MSI link can be enabled or disabled through the System Parameters screen. For more information, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001- 811), "Maintenance and administration programs: system shutdown" chapter, "Configure Meridian MAX System" section, "System Parameters" subsection.

The LAN Link Diagnostics screen, in the maintenance and administration programs, provides the status of the MSI link, the number of link errors, and the IP address port number of the connection.

For more information, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" or "Maintenance and administration programs: system shutdown" chapters, "Diagnostics" section, "LAN Link Diagnostics" subsection.

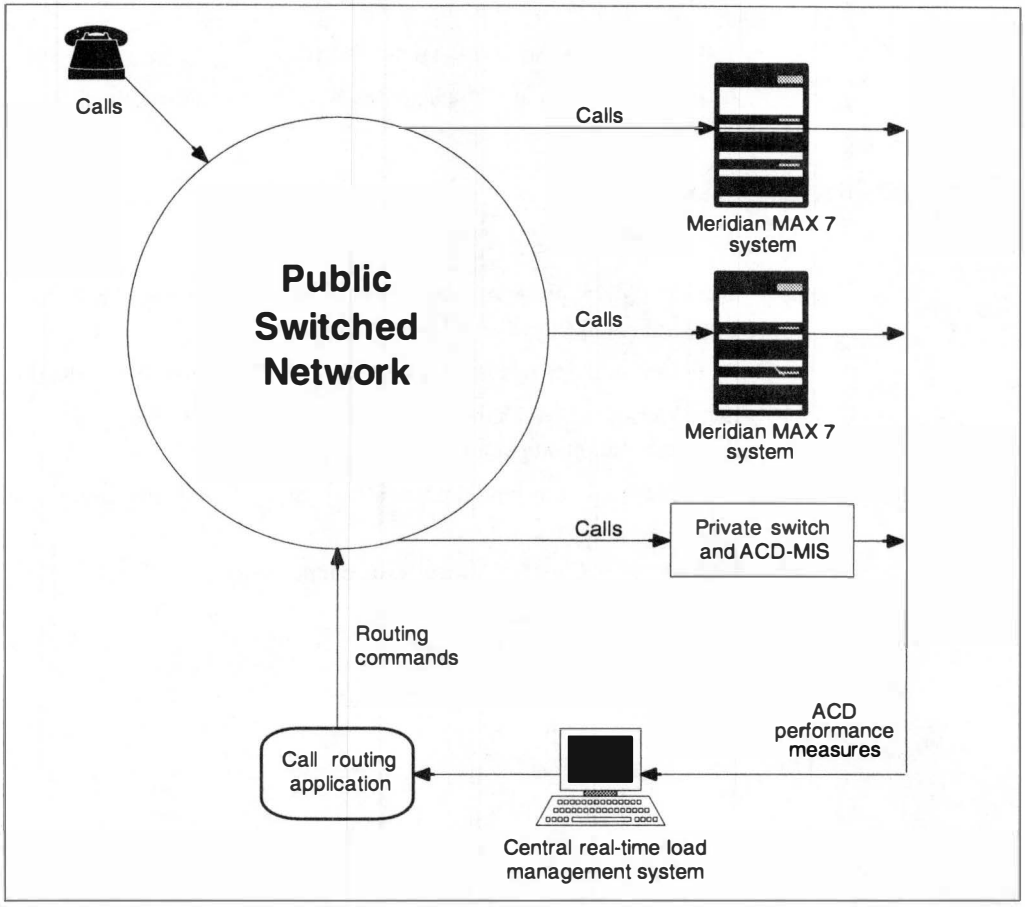
> ***Note:*** MSI cannot be used if your Meridian MAX system has NAC connectivity or MQA.

Installation

The MSI option can be installed or removed from the Meridian MAX only through a new installation, an installation upgrade, or an application upgrade.

For more information on software installation and keycodes, refer to the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111).

Figure 6-1
MSI network connectivity



Call routing application

The call routing application allows calls to be routed through the public network to the queue that is best able to handle the call at that time. The call is routed to the ACD where the central real-time load management system believes the next available agent may be. Since the call routing application does not receive agent-based information, it can only act in a predictive manner.

Feature requirements

To install MSI, your system must meet the following requirements:

- Your Meridian MAX has LAN connectivity.
- A central real-time load management system is installed on the network.

Feature limitations

The MSI feature is subject to the following limitations:

- Meridian MAX provides statistics to the central real-time load management system every 15 seconds.
- Meridian MAX provides the statistics in a 10-minute moving window.
- Each Meridian MAX supports only one connection to one central real-time load management system.
- Meridian MAX can send data on a maximum of 64 queues across the MSI link.
- Meridian MAX does not have NAC connectivity.
- Meridian MAX does not have MQA.

Chapter 7: Customer Controlled Routing (CCR)

Note: Not all applications are available in all countries. Contact your Nortel representative for details.

Customer Controlled Routing (CCR) is a flexible call routing application that allows you to define how ACD calls are handled on an individual call basis and routed through a Meridian 1 system. CCR is an application module (AM) based product for the Meridian 1 that works in conjunction with the Meridian MAX. It resides in the Application Equipment Module (AEM) connected to the switch. Informational data from the CCR appears in real-time displays and historical reports.

By using scripts, the routing and treatment of calls can be customized. When a call is queued, the treatment given to the waiting call is determined by instructions contained in the script associated with a CDN. The set of user-friendly call processing commands can be combined to create various call-routing schemes and treatments to meet specific needs.

Commands defined in a script determine the routing of a call to a specific destination and how that call is treated while waiting in an ACD queue. Specialized treatment for different call types is provided, and ACD resources are pooled to best handle the call load.

The CCR/EAR MIS option adds the following features:

- real-time displays of CDN activity
- historical reports on CDN activity and performance
- additional configuration control and parameter administration functions

In addition to these new features, some of the standard ACD features are enhanced by the CCR/EAR MIS option.

Typical applications

CCR has advanced call handling features which make it ideal for companies that need to provide specific call treatment for individual calls. Call scripts can be as simple or as sophisticated as the specific application requires and are not limited to a defined number of steps. Some examples are provided below.

Credit card company example

A credit card company has one customer service group for its toll-free service number credit cardholders. The company wants to provide a different level of customer service for each cardholder type.

The company could designate three different call treatments by designating specific Dialed Number Identification Service (DNIS) numbers for a variety of services, based on whether the calls were from

- platinum cardholders
- gold cardholders
- regular cardholders

Utility company example

A utility company has one primary customer service answering group. If a power outage occurs, the company wants to screen its calls as follows:

- Calls from hospitals, based on Calling Line Identification (CLID), are given top priority and hear a unique recorded announcement while waiting for an agent.
- Calls from the affected area, based on the NPA and/or NNX, are assigned a lower priority and are routed to a recorded announcement. The announcement asks them to hang up if they are calling to report an outage in their area (if the customer stays on the line, the call is handled at the lower priority and forwarded to an agent).

Chapter 8: Management reports

Meridian MAX includes a series of predefined standard management reports which handle most reporting needs. Report customization allows a supervisor to modify these predefined reports or create new reports to meet special needs.

The management reports monitor changes in the call center operation and identify potential problem areas. The reports show the efficiency and effectiveness of the ACD system and provide the required information to improve the call center performance.

The following standard reports are presented in the order the reports appear on selection menus:

- Summarized ACD-DN Performance report
- ACD-DN Delay Before Answering report
- ACD-DN Delay Before Abandoning report
- ACD-DN by Agent Performance report
- Agent by ACD-DN Performance report
- Agent by Supervisor Performance report
- Supervisor by Agent Performance report
- All Trunks Busy report
- ACD-DN by Route Performance report
- Route by ACD-DN Performance report
- DNIS Performance report
- ACD-DN by Activity Code report
- Activity Code by ACD-DN report
- RAN Route report (only if running X11 Release 17 or higher)

The four additional reports that follow are available if the CCR option is enabled:

- Control DN Performance report
- CDN Delay Before Answering report
- CDN Delay Before Abandoning report
- CDN Call Answer Breakdown report

For more information, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Standard management reports" chapter.

The three additional reports that follow are available if the NACD option is enabled:

- Network Trunk Utilization report
- Diverted Call Profile report
- Target ACD-DN Calls Profile report

For more information, refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Network Automatic Call Distribution (NACD)" chapter.

Figure 8-1 shows an example report based on ACD-DN performance.

Figure 8-2 shows an example of a graphic report on agent performance.

Figure 8-1
Example standard management report based on ACD-DN performance

Summarized ACD-DN Performance Report
Interval Report

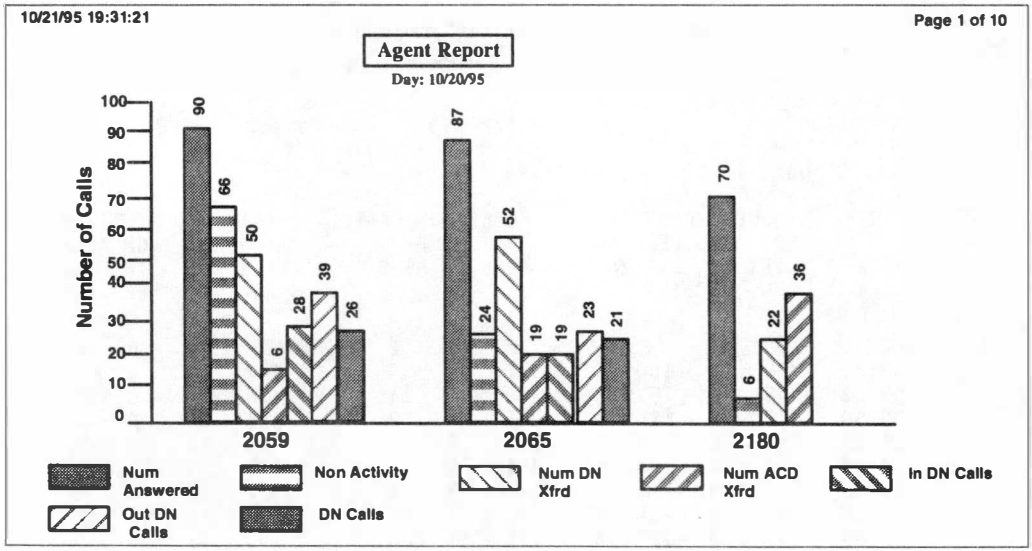
Page 1

ABC Corporation Date: 04/20/95 Time:22:29:08

Intervals: 08:00 - 12:00 Day: 04/18/95

ACD-DN	INTVL	--QUEUE PROFILE- SRV LVL%	AVG DEL SEC	DEL-ANN 1ST	2ND	-NUMBER OF CALLS ANSW	OVFL IN	ABND	---AVG AGENT TIME-- ACD TALK SEC	NOT RDY SEC	-NON IN SEC	ACD- OUT SEC
Day: 04/18/92												
6100	08:00	100	1	2	0	7	0	0	25	1	0	0
	08:30	98	55	106	62	140	0	9	142	20	0	20
	09:00	96	79	153	106	149	0	14	136	28	0	180
	09:30	89	77	178	110	165	0	22	146	36	0	0
	10:00	100	58	142	78	141	0	16	154	56	0	60
	10:30	95	44	104	64	162	0	11	144	41	0	0
	11:00	100	34	90	53	161	0	9	157	43	0	7
	11:30	99	72	136	96	133	0	14	180	41	0	102
	12:00	99	70	137	105	126	0	20	161	42	0	0
6100		97	54	1048	674	1184	0	115	138	38	0	41
6130	08:00	95	1	3	0	6	0	0	29	2	0	0
	08:30	100	56	104	63	143	0	7	147	22	0	22
	09:00	99	75	150	104	151	0	13	140	25	0	175
	09:30	95	78	179	108	160	0	19	150	36	0	5
	10:00	96	59	143	77	143	0	18	155	54	0	0
	10:30	100	43	105	63	159	0	9	169	47	0	15
	11:00	100	30	93	55	160	0	11	165	53	0	8
	11:30	99	66	134	97	134	0	16	157	43	0	69
	12:00	89	70	136	106	127	0	24	158	45	0	28
6130		97	53	1047	673	1183	0	117	141	36	0	35
		97	53	2095	1347	2367	0	232	139	37	0	38

Figure 8-2
Bar graph showing agent performance



Chapter 9: Master index

Description

This chapter provides a synopsis of the information found in each of the Meridian MAX 7 documents. It also cross-references Meridian MAX 7 topics with the document(s) where the topics are discussed.

NTP listings

Table 9-1 lists the documents directly related to Meridian MAX Release 7. Each document is presented with its document number, title, issue date, and a brief description of its contents.

Table 9-1
Meridian MAX 7 document list

Nortel publication number	Document title	Issue date	Manual contents
553-4001-111 (P0815587)	*Meridian MAX 7 Installation Guide*	95 11	This manual describes the hardware and software installation, requirements, capacities, and procedures for Meridian MAX.

—continued—

Table 9-1 (continued)
Meridian MAX 7 document list

Nortel publication number	Document title	Issue date	Manual contents
553-4001-811 (P0815589)	*Meridian MAX 7 Maintenance and Diagnostics Guide*	95 11	This manual provides maintenance and administration procedures, shutdown and start-up procedures, and a fault isolation checklist. It also describes the diagnostic messages used by the Meridian MAX system, and lists each system (error) message, providing the cause of each message, the severity of the problem, and the recovery procedure.
553-4001-911 (P0815591)	*Meridian MAX 7 Overview*	95 11	This manual introduces the Meridian MAX system, its features and its functions. It also provides a listing and brief descriptions of the Meridian MAX documents.
P0815598	*Meridian MAX 7 Supervisor's User Guide*	95 11	This manual provides an in-depth description of all advanced or optional Meridian MAX features, and the specific Meridian MAX features available to supervisors and administrators. It can be used as part of a training program for new users.
P0815602	*Meridian Terminal Emulator (MTE) 6 User Guide*	95 11	This manual provides instructions on installing and using MTE 6.

—continued—

Table 9-1 (continued)
Meridian MAX 7 document list

Nortel publication number	Document title	Issue date	Manual contents
P0821303	*Meridian Terminal Emulator (MTE) 7 User Guide*	95 11	This manual provides instructions on installing and using MTE 7.
553-4001-210 (P0815593)	*Meridian MAX 7 Installation Upgrade Guide for Meridian MAX 3 through 6 Systems*	95 11	This manual describes the hardware and software installation procedures for upgrading from the Meridian MAX 3 through 6 systems to the Meridian MAX 7.

—end—

Topical listings

Table 9-2 cross-references Meridian MAX 7 topics to the appropriate Meridian MAX 7 document(s). The documents are listed by the last three digits of their document numbers. Refer to Table 9-1 for the numbers and titles.

The following symbols are used in Table 9-2:

◊ — Concepts

♦ — Procedures and detailed information

Table 9-2
Topic/document cross-reference

Topics	111	811	911	815598
Agent Status Display			◊	♦
Capacities	♦		◊	
Capacity Configuration	♦	♦	◊	
Color Customization			◊	♦
Combined Call Abandoned Reporting		♦	◊	♦
Configuration Control			◊	♦
Configuration Control ad hoc mode				♦
Custom Calculator (Formula Definition)			◊	♦
Dial-up supervisor	♦			◊
Event log reports				♦
Fault isolation		♦		
Functional description			◊	◊

– continued –

Table 9-2 (continued)
Topic/document cross-reference

Topics	111	811	911	815598
Getting started	◆			◆
Hardware installation	◆			
Improving system performance				◊
Keycodes	◆	◆	◊	
LAN parameters	◆	◆		◆
List Management			◊	◆
Locate Agent				◆
Local printing				◆
Maintenance and administration programs		◆		
Management reports			◊	◆
MAX Status Interface	◆	◆	◊	◆
Meridian MAX functions			◊	◆
Meridian MAX error messages		◆		
Meridian MAX IPE module	◆	◊	◊	
Meridian MAX terminal	◆		◊	◆
Monitor Another Supervisor			◊	◆
Multiple Queue Assignment			◊	◆
NAC connectivity features	◆	◆	◊	◆
Network Automatic Call Distribution			◊	◆
Night Call Abandon Count Reporting			◊	◆

– continued –

Table 9-2 (continued)
Topic/document cross-reference

Topics	111	811	911	815598
Operating modes	◆			
Parameter Administration				◆
Position sizing	◊	◆	◊	◊
Queue Statistics Display			◊	◆
Report Definition			◊	◆
Schedule Definition			◊	◆
Shutdown procedure	◆	◆		
Site preparation	◆			
Software installation	◆			
Standard management reports			◊	◆
Statistic groups (report and display)				◆
Supervisor Display Access	◆	◆	◊	◆
System reports				◆

— end —

List of terms

ACD

Automatic call distribution (ACD) provides a means of automatically distributing a company's or organization's incoming calls among a number of answering positions (ACD agents). Automatic call distribution is useful in operations where callers want a service rather than a specific person. Calls are serviced in the order they arrive and distributed so that the workload at each answering position is approximately equal.

ACD configuration

The ACD configuration includes the assignments in the Meridian MAX system of agents to queues, queues to a supervisor, trunks to routes, and routes to queues. It also includes the parameters that control recorded announcements, call overflow and interflow, and night service.

ACD-DN

An automatic call distribution - directory number (ACD-DN) is the queue where incoming calls wait until they are answered. Calls are answered in the order in which they entered the queue.

Agent

An agent is a person who answers ACD calls. An agent should be able to provide all the information needed for an ACD call.

AM

The application module (AM) is the card cage that resides within the Application Equipment Module (AEM). The AM supports VME-based application products such as Meridian MAX. Two AMs can fit into each AEM. Each AM has its own power supply.

Application layer

This is a layer within a network communication model. Application programs generate messages to be sent to other applications within the network.

Application upgrade

An application upgrade is the software upgrade procedure you perform when you are installing new features or functionality onto your existing Meridian MAX system without changing the hardware or the operating system.

CDN

A Control Directory Number (CDN) is a special Directory Number (DN) configured in a Meridian 1 system to which no agents are assigned.

Configuration Control

The Configuration Control feature enables a system administrator to make changes to the configuration of the ACD system so that it works more efficiently.

Configuration Control Link

See Load Management Link.

Custom Calculator

Custom Calculator, also referred to as Formula Definition, is an option that allows new formulae to be defined for use in custom reporting and custom displays. These formulae can be used in graphic and tabular report definitions.

Data link layer

This is a layer within a network communication model. It takes application layer messages and sends them over the network.

Default router/gateway address

In the network environment, routers (also called gateways) are used to provide connectivity between two networks.

DID

Direct Inward Dialed

DN key

The directory number (DN) key is the agent's link to the Meridian 1. The agent can make and answer non-ACD calls using the DN key.

DNIS number

In situations where customers can dial one of several telephone numbers, the dialed number information service (DNIS) allows the Meridian MAX system to keep track of the last three or four digits of the telephone number dialed. In this way, one ACD queue can receive calls from several different phone numbers, and agents know which number was dialed and answer each call appropriately.

Formula Definition

See Custom Calculator.

HDC

Historical Data Collection is a task within MAX that collects data from the Meridian 1 and writes the data to the Historical Database.

HSL

High-Speed Link is the 9600 baud link that connects the Meridian 1 with the MAX. The Meridian 1 sends call traffic messages to the MAX via this link.

IPE

Intelligent Peripheral Equipment

IPE system

A Meridian MAX 7 hardware platform, the Intelligent Peripheral Equipment (IPE) module consists of the following components:

- SMM167 CPU card
- 180-Mbyte or 240-Mbyte hard disk, and a 155-Mbyte or 600-Mbyte cassette tape drive

Installation upgrade

An installation upgrade is a Meridian MAX system upgrade that changes the Meridian MAX hardware and/or software. For example, if you change from a Meridian MAX 4 single-module system to a Meridian MAX 7 SNN, both hardware and software change. If you perform an installation upgrade from a Meridian MAX 6 SNN system to a Meridian MAX 7 SNN system, only the software needs to be upgraded.

Interflow

When an ACD-DN cannot handle all the calls coming in, a supervisor can manually activate the interflow feature. This feature allows new calls to the ACD-DN to be rerouted to a predefined destination within the ACD system or to an external number.

LAN

Local area network

Load Management Link

This is the link through which the Meridian 1 and the Meridian MAX communicate. It allows the supervisor to send Load Management commands to the switch.

Load new software release

When the Meridian MAX release which your system is installed with updates its software, you can perform a load new software release procedure. For example, if you are currently running Meridian MAX 7 SNN Release 07.21 and you need to upgrade to Meridian MAX 7 SNN Release 07.25, you can perform this procedure.

Management reports

Management reports show detailed information on various aspects of an ACD operation. These reports offer valuable information on how well the system configuration is working.

MAX

Micro-auxiliary processor

Meridian 1

Meridian 1 is the private branch exchange (PBX) that handles the calls to and from the organization's ACD system. It routes calls to the various queues and provides the framework for all the ACD features available through Meridian MAX.

MQA

Multiple Queue Assignment (MQA) allows agents to service up to five queues simultaneously. At login, agents can define priorities within the queues and assign themselves to a specific supervisor. They are also able to log into any telephone set allowing workstations to be shared and changed between agents.

MSI

MAX Status Interface (MSI) allows Meridian MAX to send queue-based statistical data across the LAN to a central real-time load management system. The central system uses the data received from the Meridian MAX and other vendors' ACD systems to manage network traffic.

MTE

Meridian Terminal Emulator (MTE) software is a terminal emulator package designed to run on IBM, or 100% compatible AT or higher, PCs.

MVME

Motorola Versa-Module Eurocard

NAC

Network Administration Center (NAC) is a computerized system that allows organizations with multiple MAX sites, called nodes, to monitor and supervise all sites from one central location.

NACD

Network Automatic Call Distribution (NACD) is an option that allows calls to be overflowed to an ACD-DN in another node in the ACD network.

Node

A node is a Meridian MAX or ACD-MAX system that functions as part of a Network Administration Center (NAC) system.

Overflow

Meridian MAX allows several different overflow thresholds to be defined. When an overflow threshold on a particular ACD-DN is reached, calls are routed automatically to an overflow queue where they can then be answered by the next ACD-DN that is defined to receive these overflowed calls and is in a position to accept them.

Platform upgrade

A platform upgrade is an upgrade that involves changes to both Meridian MAX system hardware and software. For example, an upgrade from an ACD-MAX system to a Meridian MAX system is a platform upgrade.

SDA

Supervisor Display Access (SDA) is a Meridian MAX - IPE specific feature that allows another supervisor display via the system console port or remote diagnostics modem port.

SEE system

This is a Meridian MAX hardware platform consisting of

- Single application module
- Existing MVME147SA–1 CPU card
- Existing mass storage unit (MSU) containing a 172-Mbyte or 240-Mbyte hard disk, and a 155-Mbyte cassette tape drive

Note: Meridian MAX 7 does not support the SEE hardware platform.

SNN system

This is a Meridian MAX hardware platform consisting of

- Single application module
- New MVME167–34 CPU card
- New mass storage unit (MSU) containing a 1.2-Gbyte hard disk and a 600-Mbyte cassette drive

STA

Single Terminal Access (STA), available with X11 Release 19 and higher, provides integrated access to operation, administration, and maintenance (OA&M) functions for the systems it monitors.

Statistics group

All the data from the PBX switch is collected into logical groups.

Subnet mask

The subnet mask is a 32-bit number used by the network software on a local machine to determine which bits belong to the network or to the host parts of an internet address. An improper subnet mask can result in high collision rates and reduced network efficiency.

Supervisor

The supervisor is the person who manages agent and queue performance.

System administrator

The system administrator is responsible for overseeing the functions of the Meridian MAX system, including its staff and facilities. In addition to the functions available to supervisors, the system administrator is usually responsible for the definition of management reports and the printing schedule for these reports. Based on the information these reports provide, the system administrator can reconfigure the system to best use the system's equipment and personnel.

Thresholds

Meridian MAX allows the definition of several different thresholds that pertain to different objectives of your organization. For instance, thresholds can be defined for the maximum length of time a customer's call should wait in queue, how long an agent should spend on each call, and how many calls should be waiting in a queue before other queues should start accepting the overflow.

Trunk routes

Trunks are the physical links, or circuits, that enable telephone communication. A trunk route carries calls from outside the ACD system to an agent or ACD queue.

VME

Versa-Module Eurocard

Index

A

ACD, 1-1

ACD-DN, 1-1

Agent Status Display, 3-1
  locate agent, 3-6

Automatic call distribution. *See* ACD

Automatic call distribution - directory number. *See* ACD-DN

C

Calls abandoned reporting, 3-1– 3-2

Capacities, hardware-dependent, 2-1

Capacity Configuration, 3-2

CCR, 1-2, 1-17, 7-1– 7-2
  typical applications, 7-2

CDN, 1-2, 1-17

Color Customization, 3-2

Combined Call Abandon Reporting, 3-1– 3-2

Configuration Control, 3-3, 5-1

Control Directory Number. *See* CDN

Customer Controlled Routing. *See* CCR

D

Data stream reporting, 3-3

Dial-up supervisor, 1-4– 1-5, 3-4

Display Definition, 3-4

DNIS Definition, 3-4

Documents, topical listing, 9-4– 9-6

E

EAR, 1-17, 7-1

Enhanced ACD Routing. *See* EAR

F

Features
  Agent Status Display, 3-1
  Capacity Configuration, 3-2
  Color Customization, 3-2
  Combined Call Abandon Reporting, 3-1– 3-2
  Configuration Control, 3-3
  Data stream reporting, 3-3
  Dial-up supervisor, 1-4– 1-5, 3-4
  Display Definition, 3-4
  DNIS Definition, 3-4

Formula Definition, 3-4
Graphic Format Definition, 3-5
High-Speed Link status indicator, 3-5
International language support, 3-5
LAN parameters, 3-6
LAN-based supervisor workstations, 3-5
List Management, 3-6
Local printing, 3-6
Locate Agent on Agent Status Display, 3-6
MAX Status Interface, 3-7
Monitor Another Supervisor, 3-7
Multiple Queue Assignment, 3-7– 3-8
NAC connectivity, 3-8
Night Call Abandon Count Reporting, 3-1– 3-2
Online port assignment, 3-8
Parameter Administration, 3-8
Queue Statistics Display, 3-9
Remote printing, 3-9
Report Parameter Definition, 3-9
Schedule Definition, 3-10
Spectrum Definition, 3-10
Supervisor Display Access, 3-10
Supervisor Messaging, 3-11, 5-2
System reports, 3-11
Tabular Format Definition, 3-11

Formula Definition, 3-4

G

Graphic Format Definition, 3-5

Graphic Report, 1-5

H

Hardware
dependent capacities, 2-1
overview, 1-7– 1-9
platforms, 1-6

High-Speed Link, status indicator, 3-5

I

International language support, 3-5

K

Keyboard, 1-4

Keycodes, 1-15

L

LAN parameters, 3-6

LAN-based supervisor workstation, 3-5

Language, international support, 3-5

List Management, 3-6

Local printing, 3-6

Locate agent, Agent Status Display, 3-6

Login, remote supervisor, 5-2

M

Management reports, 1-5, 8-1– 8-4
consolidated, 5-2

Master index, 9-1– 9-6

MAX Status Interface. *See* MSI

Meridian 1, 1-2, 7-1
software requirements, 1-3

Meridian MAX 7
functions, 1-3

new features, 1-5
system limits, 2-3– 2-6

Meridian MAX IPE module, 1-8, 1-9

Meridian MAX SNN module, 1-7

Meridian Terminal Emulator (MTE), 2-2

Monitor Another Supervisor, 3-7

MQA, 3-7– 3-8

MSI, 1-16, 3-7, 6-1– 6-4
call routing application, 6-3
installation, 6-2– 6-3
limits, 6-4
requirements, 6-4

Multiple Queue Assignment. *See* MQA

N

NAC, 5-1– 5-6
connectivity, 1-16, 3-8, 5-1
features, 5-1– 5-2
configuration control, 5-1
consolidated management reports, 5-2
real-time statistics, 5-2
remote printing, 5-2
remote supervisor login, 5-2
supervisor messaging, 5-2
network connectivity, 5-3
network data flow, 5-5

NACD, 4-1– 4-2

Network Administration Center. *See* NAC

Network Automatic Call Distribution. *See* NACD

Network connectivity, 5-3

Network data flow, NAC, 5-5

Networking, 1-16

Night Call Abandon Count Reporting, 3-1– 3-2

NTP listings, 9-1– 9-3

O

Online port assignment, 3-8

Option 11, 1-11

Option 21–81, 1-12

P

Packaging requirements, 1-18

Parameter Administration, 3-8– 3-9

Position sizing, 2-5

Printers, 2-3

Printing, remote, 3-9, 5-2

Q

Queue Statistics Display, 3-9

R

Remote activities
printing, 5-2
supervisor login, 5-2

Remote printing, 3-9
See also Remote activities

Remote supervisor login, 5-2

Report Parameter Definition, 3-9

Reports
consolidated management reports, 5-2
customization, 1-5
graphic, 1-5
management, 1-5, 8-1– 8-4
system, 3-11

S

Schedule Definition, 3-10

SDA, 3-10

Software
Meridian 1 requirements, 1-3
X11 and X81 package requirements, 1-17

Spectrum Definition, 3-10

Statistics, real-time, NAC, 5-2

Status indicator, High-Speed Link, 3-5

Supervisor, 1-3
monitor another, 3-7

Supervisor Display Access. *See* SDA

Supervisor Messaging, 3-11, 5-2

System administrator, 1-4

System reports, 3-11

System, Meridian MAX 7
layout, 1-10– 1-12
limits, 2-3– 2-6
upgrades to, 1-13– 1-15

T

Tabular Format Definition, 3-11

Topics, document locations, 9-4– 9-6

U

Upgrades, 1-13– 1-15
paths, 1-14– 1-15

W

Workstation, 1-4, 2-1
LAN-based, 3-5

X

X11 and X81 software requirements, 1-17

NORTEL
NORTHERN TELECOM

Reader's Response Form for

Meridian MAX
***Overview*, 553-4001-911**
November 1995

Tell us about yourself:

Name: _____ **Date:** _____

Company: _____

Address: _____

_____

Occupation: _____ **Phone:** _____

1. What is your level of experience with this product?

   ❑ New user ❑ Intermediate ❑ Experienced ❑ Programmer

2. How do you use this book?

   ❑ Learning ❑ Procedural ❑ Problem solving ❑ Reference

3. Did this book meet all of your needs?

   ❑ Yes ❑ No

   If you answered **No** to this question, please answer the following questions.

4. What chapters, sections, or procedures did you find hard to understand?

   _____

   _____

   _____

5. What information (if any) was missing from this book?

   _____

   _____

   _____

6. How could we improve this book? (For example, books can also be evaluated in many other ways, including ease of information retrieval, presentation, and use of reading aids, such as diagrams.)

   _____

Please return your comments by fax to (416) 597-7104, or mail your comments to: Customer Documentation, Nortel, 522 University Ave., 12th Floor, Toronto, Ontario, Canada M5G 1W7

NORTEL
NORTHERN TELECOM

Reader's Response Form

Electronic Private Automatic Branch Exchange and
Business Communication Systems

Meridian MAX

Overview

Customer Documentation
Nortel
522 University Avenue, 12th Floor
Toronto, Ontario, Canada
M5G 1W7

© 1995 Northern Telecom

All rights reserved

Information is subject to change without notice. Northern Telecom reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

Nortel, Meridian, Meridian MAX, Meridian MAX - IPE, ACD-MAX, Meridian 1, SL-1, and Meridian Terminal Emulator are trademarks of Northern Telecom. Compaq is a trademark of Compaq Computer Corporation. DEC, VT220, VT420, and VT520 are trademarks of Digital Equipment Corporation. HP, HP Vectra, RuggedWriter, DeskJet, LaserJet, and PaintJet are trademarks of Hewlett-Packard Company. IBM, PC, AT, and IBM PS/2 are trademarks of International Business Machines Incorporated. Windows and MS/DOS are trademarks of Microsoft Corporation. Ven-Tel and the Ven-Tel logo are trademarks of Ven-Tel Incorporated. TEAC is a trademark of TEAC Corporation. UDS and SYSTEM V/68 are trademarks of Motorola Incorporated. UNIX is a registered trademark of AT&T. Reflection is a registered trademark of Walker Richer & Quinn, Inc. Ethernet is a registered trademark of Xerox. Gandalf is a registered trademark of Gandalf Technologies Inc. Racal is a registered trademark of Racal Data Communications Incorporated.

Publication number:	553-4001-911
Product release:	7
Document release:	Standard 1.0
Date:	November 1995

NORTEL
NORTHERN TELECOM

553-4001-111

Electronic Private Automatic Branch Exchange and Business Communication Systems

Meridian MAX

Installation Guide

Product release 7 Standard 1.0 November 1995

NORTEL

NORTHERN TELECOM

P0815587

Electronic Private Automatic Branch Exchange and Business Communication Systems

Meridian MAX

Installation Guide

Publication number: 553-4001-111
Product release: 7
Document release: Standard 1.0
Date: November 1995

© 1995 Northern Telecom
All rights reserved

Printed in the United States of America

Information is subject to change without notice. Northern Telecom reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

Nortel, Meridian, Meridian MAX, Meridian MAX - IPE, ACD-MAX, Meridian 1, SL-1, and Meridian Terminal Emulator are trademarks of Northern Telecom. Compaq is a trademark of Compaq Computer Corporation. DEC, VT220, VT420, and VT520 are trademarks of Digital Equipment Corporation. HP, HP Vectra, RuggedWriter, DeskJet, LaserJet, and PaintJet are trademarks of Hewlett-Packard Company. IBM, PC, AT, and IBM PS/2 are trademarks of International Business Machines Incorporated. Windows and MS/DOS are trademarks of Microsoft Corporation. Ven-Tel and the Ven-Tel logo are trademarks of Ven-Tel Incorporated. TEAC is a trademark of TEAC Corporation. UDS and SYSTEM V/68 are trademarks of Motorola Incorporated. UNIX is a registered trademark of AT&T. Reflection is a registered trademark of Walker Richer & Quinn, Inc. Ethernet is a registered trademark of Xerox. Gandalf is a registered trademark of Gandalf Technologies Inc. Racal is a registered trademark of Racal Data Communications Incorporated.

Publication history

November 1995

This document was issued as the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), Standard 1.0.

Contents

About this document xxiii
Terminology xxiii
Conventions xxiii
Sample screens xxv
Reference to other Meridian MAX documents xxv
Reference to NAC documents xxvii
Reference to other ACD documents xxviii

Chapter 1: Introduction 1-1
Hardware platforms 1-1
The installation process 1-2
Installation responsibilities 1-3
Hardware overview 1-4
Software overview 1-5
New installation 1-5
Installation upgrade 1-5
System performance 1-6
System reliability 1-7
Automatic backup 1-7
Power failure 1-7
Mean Time Between Failures 1-8
Meridian MAX and leading zeros 1-10

Chapter 2: Site preparation 2-1
Power requirements 2-1
Environmental requirements 2-3
Meridian MAX Application Module 2-3
Meridian MAX - IPE module 2-4
X11 software packaging requirements 2-4
Site layout 2-5

Supervisor location 2-6
Printer location 2-6
Static electricity precautions 2-6
Multiple Queue Assignment 2-7
Capacities 2-7
Platform capacities 2-7
Hardware-dependent capacities 2-9
Capacity Configuration 2-18
Printer capacities 2-21
Dialing plans 2-22
Seven-digit CDP dialing plan 2-22
UDP dialing plan 2-23
CDP dialing plan and UDP just for NACD routing tables 2-24

Chapter 3: Hardware installation: Application Module 3-1

A word about warranties 3-1
Overview 3-1
Single board computer cards 3-7
MVME167-34 3-7
Transition cards 3-10
MVME712M 3-10
NT6D51AA 3-10
MVME332XTS and MVME332XT eight-channel asynchronous boards 3-12
Meridian MAX Application Module 3-16
Installing the Application Module 3-17
Installing the power supply 3-19
Installing the mass storage unit 3-19
Meridian MAX Application Module label 3-20
Input/output panels 3-20
Input/output port assignments 3-22
Cables 3-26
Internal input/output cables 3-26
Interconnect input/output cables 3-29
External input/output cables 3-30
VME multiport cable 3-41
Hardware upgrades and replacements 3-43
Adding MVME332XTS/XT cards to an SNN system 3-44
Replacing the MVME167-34 single board computer card 3-46
Configuring the MVME167-34 card 3-48

Chapter 4: Hardware installation: Intelligent Peripheral Equipment (IPE) module 4-1

A word about warranties 4-1
Overview 4-1
Meridian MAX - IPE module—Option 11 4-11
Input/output cables 4-11
Input/output port assignments 4-15
Meridian MAX - IPE module—Option 21-81 4-17
Input/output cables 4-17
Cable rerouting for Option 21-81 CE/PE and IPE modules 4-20
Input/output port assignments 4-28
Cabling Option 11 and Option 21-81 to peripherals through a main distribution frame 4-30
Cables 4-33
External input/output cables 4-33
NT1R03AA/NT1R03BA four-port I/O cable 4-38
Hardware upgrades 4-43
Performing the hardware upgrade 4-44
Hardware replacements 4-49
Configuring the SMM167 card 4-51
SMM167 card jumper settings 4-55

Chapter 5: Modems 5-1

Supported modems 5-1
Other modems 5-2
Modem cables 5-5
Limited-distance modems 5-7
Gandalf LDS 120E and Develcon DS 511A limited distance 5-7
Dial-up modems overview 5-14
Remote diagnostic modems 5-15
NetComm SmartModem M7F 5-18
Racal VI2422PA 5-21
UDS 2440 5-24
UDS EC224A/D 2400 5-35
Dial-up supervisor modems 5-37
NetComm SmartModem M7F 5-39
Racal VI2422PA 5-42
UDS 2440 5-44
UDS EC224A/D 2400 5-46
Ven-Tel 2400 Plus II 5-50

Ven-Tel 9600 Plus (with power pack model # L5730-01) 5-54
NAC connectivity 5-59
Limited distance modems for NAC connectivity 5-62
Remote supervisor login and network link 5-62
Dial-up modems for NAC connectivity 5-74
NAC 2 end 5-74
NAC 1 end 5-74
Meridian MAX end 5-74
Remote supervisor login 5-77
Network link 5-81
T1 connection for NAC connectivity 5-95
Direct connection for NAC connectivity 5-96
NAC 2 end 5-96
NAC 1 end 5-96
Meridian MAX end 5-96

Chapter 6: Workstations 6-1

Personal computer workstations 6-2
Reflection 4+ 6-3
Meridian Terminal Emulator 6-3
Keyboard language configuration on PCs 6-14
Code Page 850 configuration 6-15
Video display terminal workstations 6-16
DEC VT520 or 100% compatible 6-16
DEC VT420 or 100% compatible (North American model) 6-24
DEC VT420 or 100% compatible (Worldwide model) 6-26
DEC VT220 or 100% compatible 6-28
HP 700/32 or 100% compatible 6-30

Chapter 7: Printers 7-1

Installing a local printer 7-2
Serial-parallel converter 7-5
DEC LA195 7-7
HP RuggedWriter 7-9
HP LaserJet series II, III, 4, and 4 Plus 7-11
HP PaintJet 3630, DeskJet, DeskJet 500, DeskJet 560C, and DeskJet 660C 7-16

Chapter 8: Meridian 1 circuit card configuration 8-1

SDI configurations for Meridian MAX 8-1
Meridian MAX Application Module 8-1

Meridian MAX - IPE module 8-3
Configuring the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link 8-5

Chapter 9: LAN connectivity with MSI and MTE 9-1
MAX Status Interface 9-2
Meridian Terminal Emulator 6 and 7 9-3
Meridian Terminal Emulator 5.32 or lower 9-3
Customer-supplied hardware 9-5
Meridian Terminal Emulator 5.32 or lower 9-5
Customer-supplied software for MTE PC workstations 9-6
Meridian Terminal Emulator 5.32 or lower PC setup 9-6
Meridian Terminal Emulator 5.32 or lower packet buffers 9-7
Common LAN functionality 9-8
Meridian MAX connectivity 9-8
Token Ring environment 9-8
IP Addresses 9-9
Subnet mask 9-9
Default router/gateway address 9-9
Hostnames 9-9
Network interface cards 9-10
Meridian MAX setup 9-10

Chapter 10: Meridian MAX system configuration 10-1
Port assignment 10-2
Fixed port assignments 10-2
Required port assignments 10-2
Retained port assignments 10-3
Capacity Configuration 10-4
Functionality 10-5
Accessibility 10-5
Historical database 10-5
Configuring the system database 10-6
Capacity Configuration worksheets 10-8
System configuration 10-12

Chapter 11: Software installation overview 11-1
A word about warranties 11-1
Meridian MAX 7 platforms 11-2
Keycodes 11-2
New software installations 11-3

Load new software release 11-3
Software reinstallations and upgrades 11-4
Reinstallations 11-4
Software upgrades 11-4
Application upgrades 11-4
Upgrading from Meridian MAX 3 through 6, or ACD-D systems 11-5
Upgrading from ACD-MAX 3 and 4 systems 11-5
Retained port assignments 11-5
Backups 11-5
Reentry points 11-7
Installation tapes 11-8

Chapter 12: New software installations 12-1
Meridian MAX 7 SNN new installation 12-2
Customer-installed software 12-2
Factory-installed software 12-24
Meridian MAX - IPE 7 new installations 12-37
Customer-installed software 12-37
Factory-installed software 12-59

Chapter 13: Loading a new software release 13-1
Meridian MAX 7 SNN system 13-2
Meridian MAX - IPE 7 system 13-18

Chapter 14: Software reinstallations and upgrades 14-1
Software reinstallation or upgrade to Meridian MAX 7 SNN 14-2
Software reinstallation or upgrade to a Meridian MAX - IPE 7 14-31

Chapter 15: Workstation, HSL, and LML configuration 15-1
Workstation configuration 15-2
Configuring the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access 15-11
Configuring the High-Speed Link on the Meridian 1 15-20
Configuring the Load Management Link on the Meridian 1 15-24
Configuring the High-Speed Link on the Option 11 15-31
Configuring the Load Management Link on the Option 11 15-34

Chapter 16: Operating modes 16-1
Changing the default language 16-2
Training mode 16-3
Precutover mode 16-5
Meridian MAX 7 SNN 16-6
Meridian MAX - IPE 7 16-13
Product mode 16-21
Meridian MAX 7 SNN 16-23
Meridian MAX - IPE 7 16-29

Chapter 17: Meridian MAX power-down procedure 17-1

Chapter 18: Meridian MAX installation checklist 18-1
Site preparation 18-1
Hardware installation 18-1
Software installation 18-3
Operating modes 18-3

Chapter 19: Field replaceable parts 19-1

Chapter 20: List of terms 20-1

Index 21-1

Figures

Figure 2-1 Sample Basic and Advanced Capacity Configuration screens 2-20
Figure 3-1 Meridian MAX Application Module (SNN system) 3-5
Figure 3-2 Meridian MAX Application Module installation 3-6
Figure 3-3 LED locations for MVME167-34 card 3-9
Figure 3-4 MVME712M transition card showing jumper switch settings 3-11
Figure 3-5 LED locations for MVME332XTS and MVME332XT cards 3-13
Figure 3-6 MVME332XTS/XT eight-channel asynchronous board switch locations 3-15

Figure 3-7 Generic input/output connector panel (SNN system) 3-21
Figure 3-8 Internal input/output cabling—SNN hardware platform 3-28
Figure 3-9 Cabling arrangement—modem connection cable NT1R03Dx 3-33
Figure 3-10 Cabling arrangement—modem connection cable NT1R03Ex 3-34
Figure 3-11 Cabling arrangement—Meridian MAX cable NT7D47EA used for LAN through Ethernet connection 3-35
Figure 3-12 Cabling arrangement—Meridian MAX cable NT7D58Ax used for High-Speed Link (HSL), and Load Management Link (LML) connections to Meridian 1; to Option 11; and for terminals (with the A0351509 gender changer) and printer connections 3-36
Figure 3-13 Cabling arrangement—Meridian MAX cable NT7D61Ax used for the system console, or an SNN system external modem 3-37
Figure 3-14 Cabling arrangement—Meridian MAX cable NT8D93Ax used for High-Speed Link (HSL) and Load Management Link (LML) connections to Meridian 1 3-38
Figure 3-15 Cabling arrangement—modem connection cable NT7D99AA to dial-up modem or limited-distance modem 3-39
Figure 3-16 External input/output cabling—SNN hardware platform 3-40
Figure 3-17 VME multiport cable 3-42
Figure 3-18 MVME167-34 single board computer card 3-47
Figure 4-1 Meridian MAX - IPE module containing a 600-Mbyte tape drive—front view 4-7
Figure 4-2 Meridian MAX - IPE module containing a 155-Mbyte cassette tape drive—front view 4-8
Figure 4-3 Meridian MAX - IPE installation overview-—Option 11 4-9
Figure 4-4 Meridian MAX - IPE installation overview—Option 21-81 4-10
Figure 4-5 NT8D11 backplane cable designations (standard configuration) 4-21

Figure 4-6	NT8D11 backplane cable designations (fully expanded configuration) 4-23
Figure 4-7	NT8D37 backplane cable designations (standard configuration) 4-25
Figure 4-8	NT8D37 backplane cable designations (fully expanded configuration) 4-27
Figure 4-9	NT8D11 CE/PE cabinet input/output connector panel 4-31
Figure 4-10	NT8D37 IPE cabinet I/O panels 4-32
Figure 4-11	Cabling arrangement—Meridian MAX - IPE NT1R03Dx straight through RS-232 extension cable used between NT1R03AA or NT1R03BA and peripheral devices, HSL port, or LML port 4-35
Figure 4-12	Cabling arrangement—Meridian MAX - IPE NT1R03Ex straight through RS-232 extension cable used between NT1R03AA or NT1R03BA and peripheral devices 4-36
Figure 4-13	Cabling arrangement: Meridian MAX - IPE NT1R03HF modem cable used between NT1R03AA or NT1R03BA and modems 4-37
Figure 4-14	NT1R03AA four-port I/O cable 4-39
Figure 4-15	NT1R03BA four-port I/O cable 4-41
Figure 4-16	Meridian MAX - IPE CPU card 4-46
Figure 4-17	Meridian MAX - IPE disk drive card: outside view 4-47
Figure 4-18	Meridian MAX - IPE disk drive card: inside view 4-48
Figure 4-19	SMM167 card jumper settings 4-55
Figure 5-1	Cabling arrangement—modem connection cable NT7D99AA for dial-up supervisor, remote supervisor login, and network link 5-5
Figure 5-2	Cabling arrangement—modem connection cable NT7D61Ax for remote diagnostics 5-6
Figure 5-3	Gandalf LDS 120E limited distance modem hardware configuration (SNN) 5-8
Figure 5-4	Develcon DS 511A limited distance modem hardware configuration (SNN) 5-9
Figure 5-5	Gandalf LDS 120E limited distance modem hardware configuration (IPE) 5-10

Figure 5-6	Develcon DS 511A limited distance modem hardware configuration (IPE) 5-11
Figure 5-7	Connecting the remote diagnostics workstation with a Meridian MAX remote diagnostic modem (SNN) 5-16
Figure 5-8	Connecting the remote dial-up workstation with a Meridian MAX remote diagnostic modem (IPE) 5-17
Figure 5-9	NetComm SmartModem M7F modem switch settings 5-18
Figure 5-10	UDS 2440 modem—front and rear view 5-24
Figure 5-11	UDS EC224A/D 2400 modem—front and rear view 5-35
Figure 5-12	UDS EC224A/D 2400 remote diagnostics modem switch settings 5-36
Figure 5-13	Connecting the remote dial-up workstation with a Meridian MAX dial-up supervisor modem (SNN) 5-38
Figure 5-14	Connecting the remote dial-up workstation with a Meridian MAX dial-up supervisor modem (IPE) 5-38
Figure 5-15	NetComm SmartModem M7F modem switch settings 5-39
Figure 5-16	UDS EC224A/D 2400 modem—front and rear view 5-46
Figure 5-17	UDS EC224A/D 2400 remote dial-up supervisor modem switch settings 5-47
Figure 5-18	Ven-Tel 2400 Plus II modem—front view 5-50
Figure 5-19	Ven-Tel 2400 Plus II modem—rear view 5-50
Figure 5-20	Ven-Tel 2400 Plus II modem—opening the modem 5-50
Figure 5-21	Ven-Tel 2400 Plus II modem—switch locations 5-51
Figure 5-22	Ven-Tel 2400 Plus II remote dial-up supervisor modem switch settings 5-52
Figure 5-23	Ven-Tel 9600 Plus modem—front view 5-54
Figure 5-24	Ven-Tel 9600 Plus modem—rear view 5-54
Figure 5-25	Ven-Tel 9600 Plus modem—opening the modem 5-55
Figure 5-26	Ven-Tel 9600 Plus modem—switch locations and settings 5-55

Figure 5-27 Ven-Tel 9600 Plus remote dial-up supervisor, remote supervisor login, and network link modem switch settings 5-56
Figure 5-28 NAC 2 network connectivity overview 5-60
Figure 5-29 NAC 1 network connectivity overview 5-61
Figure 5-30 NAC 2 Gandalf LDS 120E limited distance modem hardware configuration for remote supervisor login or network link 5-64
Figure 5-31 NAC 2 Develcon DS 511A limited distance modem hardware configuration for remote supervisor login or network link 5-65
Figure 5-32 NAC 1 Gandalf LDS 120E limited distance modem hardware configuration for network link or remote supervisor login 5-66
Figure 5-33 NAC 1 Develcon DS 511A limited distance modem hardware configuration for network link or remote supervisor login 5-67
Figure 5-34 Cabling arrangement—modem connection cable NT9D8001 5-68
Figure 5-35 Connecting NAC 2 with a Meridian MAX node—limited distance connection (SNN) 5-72
Figure 5-36 Connecting NAC 1 with a Meridian MAX node—limited distance connection (SNN) 5-72
Figure 5-37 Connecting the NAC 2 with a Meridian MAX node—limited distance connection (IPE) 5-73
Figure 5-38 Connecting the NAC 1 with a Meridian MAX node—limited distance connection (IPE) 5-73
Figure 5-39 Connecting the NAC 2 with a Meridian MAX node—dial-up connection (SNN) 5-75
Figure 5-40 Connecting the NAC 1 with a Meridian MAX node—dial-up connection (SNN) 5-75
Figure 5-41 Connecting the NAC 2 with a Meridian MAX node—dial-up connection (IPE) 5-76
Figure 5-42 Connecting the NAC 1 with a Meridian MAX node—dial-up connection (IPE) 5-76
Figure 5-43 Cabling arrangement—direct connection cable NT9D9007 5-77
Figure 5-44 NetComm SmartModem M7F modem switch settings 5-78
Figure 5-45 Ven-Tel 2400 Plus II remote supervisor login modem switch settings 5-78

Figure 5-46	Ven-Tel 9600 Plus remote supervisor login modem switch settings 5-79
Figure 5-47	UDS EC224A/D 2400 remote supervisor login modem switch settings 5-80
Figure 5-48	NetComm SmartModem M7F modem switch settings 5-81
Figure 5-49	Ven-Tel 2400 Plus II network link modem switch settings 5-86
Figure 5-50	Ven-Tel 9600 Plus network link modem switch settings 5-90
Figure 5-51	Connecting the NAC 2 to a Meridian MAX node-—direct connection (SNN) 5-97
Figure 5-52	Connecting the NAC 1 to a Meridian MAX node-—direct connection (SNN) 5-97
Figure 5-53	Connecting the NAC 2 to a Meridian MAX node-—direct connection (IPE) 5-98
Figure 5-54	Connecting the NAC 1 to a Meridian MAX node-—direct connection (IPE) 5-98
Figure 6-1	MTE 5.32 setup screen—LAN connection – general 6-11
Figure 6-2	MTE 5.32 setup screen—LAN connection – advanced 6-12
Figure 6-3	VT520 terminal main set up window 6-17
Figure 6-4	VT520 terminal - sample feature pop-up window 6-18
Figure 6-5	Port selection for VT520 6-23
Figure 6-6	DEC VT420 workstation (North American model) Version 1.3 or greater setup 6-25
Figure 6-7	DEC VT420 workstation (Worldwide model) setup 6-27
Figure 6-8	DEC VT220 workstation setup 6-29
Figure 7-1	Meridian Terminal Emulator setup screen 7-3
Figure 7-2	Local printer control window 7-4
Figure 7-3	Serial-parallel converter DIP switch settings 7-5
Figure 7-4	DEC LA195 DIP switch settings 7-8
Figure 7-5	RuggedWriter DIP switch settings 7-10
Figure 7-6	HP PaintJet 3630, DeskJet, DeskJet 500, DeskJet 560C, and DeskJet 660C DIP switch settings 7-16

Figure 9-1 LAN connectivity with MTE and MSI enabled 9-2
Figure 11-1 Inserting a cassette into the 600-Mbyte tape drive of a Meridian MAX 7 SNN or IPE system 11-11
Figure 11-2 Inserting a cassette tape into the 155-Mbyte tape drive on a Meridian MAX 7 IPE system 11-12
Figure 16-1 Meridian MAX training mode menu 16-3
Figure 16-2 Meridian MAX precutover mode menu 16-21

Tables

Table 1-1 Meridian MAX 7 platform compositions 1-1
Table 1-2 Mean Time Between Failures (MTBF) for Meridian MAX Application Module (at 40°C) 1-8
Table 1-3 Mean Time Between Failures (MTBF) for Meridian MAX - IPE module 1-9
Table 2-1 Meridian MAX power requirements 2-1
Table 2-2 Meridian MAX hardware platform maximums 2-8
Table 2-3 Meridian MAX hardware-dependent capacities 2-10
Table 2-4 Meridian MAX hardware-dependent capacities without Configuration Control and without NAC Connectivity 2-11
Table 2-5 Meridian MAX hardware-dependent capacities with either Configuration Control or NAC Connectivity 2-12
Table 2-6 Meridian MAX hardware-dependent capacities with Configuration Control and NAC connectivity and without Remote Supervisor Link 2-13
Table 2-7 Meridian MAX - IPE hardware-dependent capacities 2-14
Table 2-8 Meridian MAX - IPE hardware-dependent capacities without Configuration Control and without NAC Connectivity 2-15
Table 2-9 Meridian MAX - IPE hardware-dependent capacities with Configuration Control and without NAC connectivity 2-16

Table 2-10	Meridian MAX - IPE hardware-dependent capacities with Configuration Control and NAC Connectivity 2-17
Table 2-11	Printer capacities 2-21
Table 3-1	Meridian MAX Application Module installation equipment and material list 3-2
Table 3-2	MVME332XTS/XT eight-channel asynchronous board's eight-switch bank settings 3-14
Table 3-3	Communication port assignment sheet 3-24
Table 3-4	Internal input/output cables 3-26
Table 3-5	Interconnect input/output cables 3-29
Table 3-6	External input/output cables 3-30
Table 3-7	VME multiport cable wiring 3-41
Table 3-8	MVME332XTS/XT card slot placement 3-45
Table 4-1	Meridian MAX - IPE installation equipment and material list 4-4
Table 4-2	Option 11 peripheral cable connector assignment sheet (main cabinet) 4-12
Table 4-3	Option 11 peripheral cable connector assignment sheet (expansion cabinet) 4-14
Table 4-4	Option 11 communication port assignment sheet 4-16
Table 4-5	CE/PE cabinet peripheral cable connector assignment sheet 4-18
Table 4-6	IPE cabinet peripheral cable connector assignment sheet 4-19
Table 4-7	NT8D11 cable connections (standard configuration) 4-21
Table 4-8	NT8D11 cable connections (fully expanded configuration) 4-23
Table 4-9	NT8D37 cable connections (standard configuration) 4-24
Table 4-10	NT8D37 cable connections (fully expanded configuration) 4-26
Table 4-11	Option 21-81 communication port assignment sheet 4-29
Table 4-12	External input/output cables 4-33
Table 4-13	NT1R03AA 50-pin four-port cable wiring 4-40
Table 4-14	NT1R03BA 50-pin four-port cable wiring 4-42
Table 5-1	Modems—DB-25 serial port genders 5-1
Table 5-2	Modems and functions 5-2

Table 5-3 Supported Hayes modem commands 5-3
Table 5-4 Supported modem responses 5-4
Table 5-5 LDS 120E external DIP switch settings for point-to-point, full-duplex 5-13
Table 5-6 LDS 120E internal DIP switch settings for point-to-point, full-duplex 5-13
Table 5-7 LDS 120E external DIP switch settings for point-to-point, full-duplex 5-69
Table 5-8 LDS 120E internal DIP switch settings for point-to-point, full-duplex 5-70
Table 6-1 Workstations—serial port genders 6-1
Table 6-2 Navigating the setup windows 6-17
Table 6-3 VT520 setup values 6-19
Table 7-1 DEC LA195 system setup 7-7
Table 7-2 RuggedWriter option switch settings 7-9
Table 7-3 LaserJet series II printer option settings 7-11
Table 7-4 LaserJet series III printer option settings 7-12
Table 7-5 LaserJet series IV printer option settings 7-13
Table 7-6 LaserJet series 4 Plus printer option settings 7-14
Table 9-1 Ethernet transceivers 9-5
Table 10-1 Basic Capacity Configuration worksheet 10-8
Table 10-2 Advanced Capacity Configuration worksheet 10-11
Table 10-3 Basic Capacity Configuration measured value field descriptions 10-46
Table 10-4 Advanced Capacity Configuration measured value field descriptions 10-56
Table 11-1 Meridian MAX 7 platform compositions 11-2
Table 11-2 Meridian MAX backup tapes 11-6
Table 11-3 Tape names 11-9
Table 12-1 Meridian MAX 7 new software installation procedures 12-1
Table 14-1 Meridian MAX 7 software reinstallation or upgrade procedures 14-1
Table 15-1 Configuration procedures 15-1
Table 16-1 Operating modes procedures 16-1
Table 19-1 Recommended spare parts for Meridian MAX Application Module 19-1
Table 19-2 Recommended spare parts for Meridian MAX - IPE module 19-2

Table 19-3 Miscellaneous spare parts for Meridian MAX 19-2
Table 19-4 Interconnect cables and part numbers for Application Module (AM) 19-3
Table 19-5 External cables and part numbers for Application Module (AM) 19-4
Table 19-6 External cables and part numbers for Intelligent Peripheral Equipment (IPE) module 19-6

Procedures

Procedure 3-1 To install the Application Module 3-17
Procedure 3-2 To install the power supply 3-19
Procedure 3-3 To install the MSU 3-19
Procedure 3-4 To add MVME332XTS/XT cards to an SNN system 3-44
Procedure 3-5 To replace the MVME167-34 SBC card 3-46
Procedure 3-6 To configure the MVME167-34 card 3-48
Procedure 4-1 To perform the hardware upgrade 4-44
Procedure 4-2 To perform the hardware replacement 4-49
Procedure 4-3 Configuring the SMM167 card 4-51
Procedure 5-1 Configuring the NetComm SmartModem M7F for remote diagnostics 5-19
Procedure 5-2 Configuring the Racal VI422PA modem for remote diagnostics 5-21
Procedure 5-3 Configuring the UDS 2440 modem via the front panel for remote diagnostics 5-25
Procedure 5-4 Alternative procedure for configuring the UDS 2440 modem via workstation for remote diagnostics 5-32
Procedure 5-5 Configuring the NetComm SmartModem M7F for dial-up supervisor—remote end 5-40
Procedure 5-6 Configuring the Racal VI2422PA dial-up supervisor modem—remote end 5-43
Procedure 5-7 Configuring the UDS 2440 modem for dial-up supervisor—remote end 5-44
Procedure 5-8 Configuring the UDS EC224A/D 2400 dial-up supervisor modem—remote end 5-48
Procedure 5-9 Configuring the Ven-Tel 2400 Plus II dial-up supervisor modem—remote end 5-52
Procedure 5-10 Configuring the Ven-Tel 9600 Plus dial-up supervisor modem—remote end 5-57

Procedure 5-11	Configuring the NetComm SmartModem M7F for network link 5-82
Procedure 5-12	Configuring the UDS 2440 modem for network link 5-84
Procedure 5-13	Configuring the Ven-Tel 2400 Plus II modem for network link 5-86
Procedure 5-14	Configuring the Ven-Tel 9600 Plus modem for network link 5-90
Procedure 5-15	Configuring the Racal VI2422PA modem for network link 5-93
Procedure 6-1	To install MTE in a DOS environment 6-8
Procedure 6-2	To start MTE 6-10
Procedure 6-3	To exit from MTE 6-10
Procedure 6-4	To set up a VT520 or 100% compatible terminal 6-16
Procedure 6-5	To set up a VT420 or 100% compatible terminal (North American model) 6-24
Procedure 6-6	To set up a VT420 or 100% compatible terminal (Worldwide model) 6-26
Procedure 6-7	To set up a VT220 or 100% compatible terminal 6-28
Procedure 6-8	To set up a HP 700/32 workstation 6-30
Procedure 7-1	To install a local printer 7-2
Procedure 7-2	To set up local printing with MTE 5.32 or lower 7-3
Procedure 8-1	To configure the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link 8-5
Procedure 9-1	To set up a PC for using Meridian Terminal Emulator (MTE) 5.32 or lower 9-6
Procedure 9-2	To increase the number of packet buffers 9-8
Procedure 10-1	Meridian MAX 7 port assignment and capacity configuration 10-12
Procedure 12-1	New installation of the Meridian MAX 7 SNN: customer-installed software 12-3
Procedure 12-2	New installation of the Meridian MAX 7 SNN: factory-installed software 12-24
Procedure 12-3	New installation of the Meridian MAX - IPE 7: customer-installed software 12-38
Procedure 12-4	New installation of the Meridian MAX - IPE 7: factory-installed software 12-59

Procedure 13-1 Load New Software Release to Meridian MAX 7 SNN system 13-2
Procedure 14-1 Software reinstallation or upgrade to a Meridian MAX 7 SNN 14-3
Procedure 14-2 Software reinstallation or upgrade to a Meridian MAX - IPE 7 14-32
Procedure 15-1 To configure the workstation 15-2
Procedure 15-2 To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA) 15-11
Procedure 15-3 To configure the High-Speed Link on the Meridian 1 15-20
Procedure 15-4 To configure the Load Management Link on the Meridian 1 15-24
Procedure 15-5 To configure the High-Speed Link on the Option 11 15-31
Procedure 15-6 To configure the Load Management Link on the Option 11 15-34
Procedure 16-1 To change the default language 16-2
Procedure 16-2 To switch from training mode to precutover mode for Meridian MAX 7 SNN systems 16-6
Procedure 16-3 To switch from training mode to precutover mode for Meridian MAX - IPE 7 systems 16-13
Procedure 16-4 To switch from precutover mode to product mode for Meridian MAX 7 SNN systems 16-23
Procedure 16-5 To switch from precutover mode to product mode for Meridian MAX - IPE 7 16-29

About this document

This document details the steps and procedures required to successfully install the hardware and software for your Meridian MAX Release 7 system.

Terminology

The term "Meridian 1" is used throughout this document, and refers to Meridian 1 and Meridian 1-ready systems, such as Meridian 1 SL-1 style cabinets that have been upgraded.

Conventions

The following conventions are used throughout the Meridian MAX 7 document set.

CALLS ANSWD

Words in this typeface represent text on your screen or printed reports.

{RETURN}

Words or characters within braces and capitalized represent a specific key on your keyboard. When two or more such keys appear side by side, all the keys must be pressed simultaneously to achieve the desired effect.

Example

Press **{RETURN}** or **{CONTROL}{R}** to begin the procedure.

Note: {RETURN} and {ENTER} are interchangeable.

[Commands]

Words within square brackets represent the generic name attached to a specific function key.

For more information on the function key capabilities, please refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "User interface" chapter, "Function keys" section.

Example

[Commands]

Activity Code Report

Bold text represents specific text that must be typed on the keyboard. The {RETURN} key must always be pressed after typing and confirming text so the system can recognize that the user is ready to continue.

Example

Enter **10**, followed by **{RETURN}**.

"Graphic Format Definition"

Italicized text within quotation marks represents a specific choice you must make from a menu.

Example

Choose *"Graphic Format Definition"* from the Report Definition submenu.

Graph Title

Italicized text represents the name of a specific field on a screen or report.

Example

Move the cursor to the *Display Name* field.

"Configuration Control"

Text in quotation marks represents references to other areas of a document.

Example

Refer to the "Profile Maintenance" chapter.

Meridian MAX 7 Supervisor's User Guide

Italicized text represents references to other documents.

Example

Refer to the *Meridian MAX 7 Overview.*

Sample screens

All screen depictions related to the Meridian Terminal Emulator (MTE) are based on a PC running the MTE software. All other screen depictions assume that you are using the DEC VT420 or a compatible workstation. If you are using a different type of workstation, there may be a difference between the function key menu as it appears on your screen and the function key menu as it appears in this document. This is due to the different keyboards that can be used with the workstation. Please refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "User interface" chapter, for more information.

Reference to other Meridian MAX documents

Additional information about Meridian MAX is contained in the following Northern Telecom (Nortel) documents:

- P0815598 *Meridian MAX 7 Supervisor's User Guide*
- 553-4001-811 *Meridian MAX 7 Maintenance and Diagnostics Guide* (P0815589)
- 553-4001-911 *Meridian MAX 7 Overview* (P0815591)
- 553-4001-210 *Meridian MAX 7 Installation Upgrade Guide for Meridian MAX 3 through 6 Systems* (P0815593)
- P0821303 *MTE 7 User Guide*
- P0815602 *MTE 6 User Guide*
- P0802089 *Meridian MAX 6 Supervisor's User Guide*
- P0802091 *Meridian MAX 6 Supervisor's Reference Guide*
- 553-4001-811 *Meridian MAX 6 Maintenance and Diagnostics Guide* (P0802081)
- 553-4001-911 *Meridian MAX 6 Overview* (P0802083)
- 553-4001-210 *Meridian MAX 6 Installation Upgrade Guide for Meridian MAX 3, 4, 4.6 and 5 Systems* (P0802085)
- 553-4001-212 *Meridian MAX 6 Platform Upgrade Guide for ACD-MAX 3, 4 and ACD-D Systems* (P0802087)

- P0743664 *Meridian MAX 5 Supervisor's User Guide*
- P0743656 *Meridian MAX 5 Supervisor's Reference Guide*
- 553-4001-111 *Meridian MAX 5 Installation Guide* (P0743645)
- 553-4001-811 *Meridian MAX 5 Maintenance and Diagnostics Guide* (P0743647)
- 553-4001-911 *Meridian MAX 5 Overview* (P0743643)
- 553-4001-210 *Meridian MAX 5 Installation Upgrade Guide for Meridian MAX 3, 4 and 4.6 Systems* (P0743683)
- 553-4001-212 *Meridian MAX 5 Platform Upgrade Guide for ACD-MAX 3, 4 and ACD-D Systems* (P0743687)
- P0741145 *Meridian MAX - IPE 4.6 Supervisor's User Guide*
- 553-4001-024 *Meridian MAX - IPE 4.6 Master Index*
- 553-4001-121 *Meridian MAX - IPE 4.6 Installation*
- 553-4001-821 *Meridian MAX - IPE 4.6 Maintenance and Diagnostics*
- 553-4001-921 *Meridian MAX - IPE 4.6 Overview*
- 553-4001-004 *Meridian MAX 4 Master Index*
- 553-4001-111 *Meridian MAX 4 Installation*
- 553-4001-811 *Meridian MAX 4 Maintenance and Diagnostics*
- 553-4001-911 *Meridian MAX 4 Overview*

For more information on the hardware and software that operate in conjunction with Meridian MAX - IPE, refer to the following Nortel documents:

- P0735303 *Option 11—X11 Software Guide, Including Supplementary Features*
- 553-3011-200 *Option 11 General Installation and Planning Guide — Read Me First*

- 553-3011-210 *Option 11 Installation Guide*
- 553-3011-300 *Option 11 Administration Guide*
- 553-3001-200 *System Option 21, 51, 61, 71— System Installation Procedures*
- 553-3001-500 *System Option 21, 51, 61, 71 General Maintenance*
- 553-3001-305 *X11 Features and Services* *
- 553-3001-400 *X11 Input/Output Guide*
- 553-2311-105A2 *Appendix to Features and Services for Generic X11 Supplementary Features* *
- 553-2311-311 *X11 Data Administration Input/Output Guide Including Supplementary Features* *
- 553-2301-511 *X11 Maintenance Input/Output Guide Including Supplementary Features* *

(* document also used for Generic X11 International software)

Reference to NAC documents

Additional information about NAC is contained in the following Nortel documents:

- P0724352 *NAC 2 Supervisor's User Guide*
- 553-4011-110 *NAC 2 Installation Guide* (P0724340)
- 553-4011-510 *NAC 2 System Administration and Maintenance Guide* (P0724342)
- 553-4011-100 *NAC 1 Installation*
- 553-4011-500 *NAC 1 Operations*
- 553-4011-800 *NAC 1 System Messages*
- P0743022 *NAC 1 Supervisor's User Guide*

Reference to other ACD documents

Other Nortel ACD documents associated with Meridian MAX are listed below:

- 553-2671-100 *ACD Basic Features Description (Package A)*
- 553-2671-101 *ACD Advanced Features Description (Package B)*
- 553-2671-102 *Management Reports Description (Package C1)*
- 553-2671-103 *ACD Load Management Description (Package C2)*
- 553-2671-104 *ACD-D General Description (Section 3 only)*

The following Nortel documents refer to Customer Controlled Routing (CCR):

- 553-3201-110 *Application Module Overview Guide*
- 553-3201-200 *Application Equipment Module Installation Guide*
- 553-3201-210 *Application Module Installation and Upgrade Guide*
- P0729367 *Customer Controlled Routing (CCR) User Guide*

Chapter 1: Introduction

Hardware platforms

Meridian MAX 7 runs on two different hardware platforms. The type of hardware platform which you use determines the features and functionality available to you. Features are common to all hardware platforms unless otherwise specified. Table 1-1 lists the available hardware platforms and their hardware composition. Refer to the "Field replaceable parts" chapter of this document for applicable part numbers.

Table 1-1
Meridian MAX 7 platform compositions

System type		CPU	Mass Storage Unit (MSU)	
Abbreviation	**Module type**	**Card type**	**Hard drive**	**Cassette drive**
SNN	Single	MVME167-34	1.2 Gbyte	600 Mbyte
IPE	IPE	SMM167	180 Mbyte, 240 Mbyte* or 1.2 Gbyte*	155 Mbyte or 600 Mbyte

* The 1.2-Gbyte and 240-Mbyte hard disks are configured and recognized by the software as a 180-Mbyte hard disk.

The installation process

This document describes the procedures that must be carried out to correctly install the Meridian MAX hardware and software. These procedures should only be carried out by trained personnel. Before beginning the installation, conduct the following:

- Verify all features on the application tape label are correct.
- Shut down the Meridian MAX system then back up your customer database.

  Note: Not all products mentioned in this document are available worldwide. Contact your MAX service representative for more information.

The hardware installation procedures described in this document pertain to the following:

- installing the Meridian MAX Application Module
- installing the Meridian MAX - IPE module
- increasing the number of input/output (I/O) ports for the Meridian MAX
- installing the workstation—a DEC VT520, DEC VT420, DEC VT220, HP 700/32 (or a 100% compatible) video display terminal (VDT), or a PC running Reflection 4+ or the Meridian Terminal Emulator (MTE) through a direct connection or LAN session
- configuring a workstation as a system console used for Supervisor Display Access (SDA)—IPE hardware platform only
- installing printers
- installing modems
- connecting the NAC network link
- preparing Meridian MAX for LAN capability
- connecting to a central real-time load management system
- software configuration of the MVME167-34 and SMM167 cards

There are eight software installation procedures described in this document:

- Meridian MAX 7 SNN: customer installed software
- Meridian MAX 7 SNN: factory installed software

- Meridian MAX - IPE 7: customer-installed software
- Meridian MAX - IPE 7: factory-installed software
- Software upgrade—Load New Software Release for Meridian MAX 7 SNN
- Software upgrade—Load New Software Release for Meridian MAX - IPE 7
- Installation upgrade to a Meridian MAX 7 SNN
- Installation upgrade to a Meridian MAX - IPE 7

Installation responsibilities

The following installation procedures are performed by your staff or the Meridian 1 Distributor:

- Obtain the hardware and software required for this installation.
- Install the Meridian 1 column (if applicable).
- Install the Meridian 1 switch (if applicable).
- Install the Meridian MAX Application Equipment Module(s) (if applicable).
- Install the Meridian MAX hardware.
- Install and connect the peripheral equipment (printers, workstations, and modems).
- Install the operating system and Meridian MAX application software.
- Configure the Meridian MAX.
- Start up the system.
- Install the LAN.
- Connect to a central real-time load management system.

Hardware overview

For an Application Equipment Module (AEM) installation, please read and follow any instructions given in the following chapters of the document *Application Equipment Module Installation Guide* (NTP 553-3201-200):

- "Overview"
- "Installing a Stand-alone AEM"
- "Adding an AEM to a Column"

For an Intelligent Peripheral Equipment (IPE) module installation, please read and follow any instructions given in the following chapters of the document *System Option 21, 51, 61, 71, 81 Installation and Maintenance Guide* (P0736432):

- "System overview"
- "System installation"

The following additional information should be obtained from the "Hardware installation: Application Module" or "Hardware installation: Intelligent Peripheral Equipment (IPE) module" chapters of this document depending on your hardware platform:

- VME card switch settings
- the internal input/output cables
- the external input/output cables
- MVME332XTS/XT serial input/output port upgrade (AEM installation only)

The installation and connection of peripheral equipment can be obtained from the "Modems," "Workstations," "Printers," and "Meridian 1 circuit card configurations" chapters of this document.

The following is a list of the steps required to install/upgrade the Meridian MAX hardware:

1 Decide upon the layout of the peripheral equipment to be attached to the Meridian MAX, bearing in mind the environmental and power requirements.

2 Assess the need for self-powered limited-distance modems that permit a distance between a peripheral and the Meridian MAX of more than 15 meters (50 feet).

3 Install the Meridian MAX Application Module or Meridian MAX - IPE module, cards, power supply, and disk/tape assemblies.

4 Install the peripherals, connecting the appropriate equipment with the designated cables.

Software overview

Please read and follow the instructions as given in the "Software installation overview" chapter of this document for your installation requirements for

- module installation
- workstation configuration

New installation

The following is a list of the steps required to install a new Meridian MAX system:

1 Install the operating system and the Meridian MAX application software (customer-installed software sites).

2 Start up the Meridian MAX system in Training Mode.

3 Train all users with the Training Mode.

4 Switch from Training Mode to Pre-Cutover Mode.

5 Set up the database while in Pre-Cutover Mode.

6 Switch from Pre-Cutover Mode to Product Mode.

7 Configure and enable the High-Speed Link (HSL).

Installation upgrade

The following is a list of the steps required to perform an installation upgrade.

1 Back up the historical database from your existing system.

2 Install the operating system and the Meridian MAX application software.

3 Transfer the existing customer database to the Meridian MAX hard disk.

4 Start up the Meridian MAX system in Precutover Mode.

5 Adjust the database while in Precutover Mode.

6 Switch from Precutover Mode to Product Mode.

The "Meridian MAX installation checklist", found at the end of this book, lists all of the steps to be followed while installing or upgrading a Meridian MAX 7 system. Each step should be performed only if all of the following conditions are met:

- This document was read and understood by the qualified personnel using the checklist.
- All preceding steps were completed (where applicable) and were performed correctly.

To update certain software options on your Meridian MAX - IPE, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration: system running" or "Maintenance and administration: system shutdown" chapter, "View/Modify Meridian MAX Options" section, for more information.

System performance

Meridian MAX is a message-driven system. Messages received from the Meridian 1 proliferate into many inter-task messages which are used to drive the Meridian MAX system.

The Meridian MAX Application Module for an SNN system supports

- 8, 16, 24, 32, and 40 I/O ports
- up to 15 000 calls per hour
- up to 1200 Meridian 1 position IDs

The Meridian MAX - IPE module supports

- eight I/O ports
- up to 5000 calls per hour
- up to 200 Meridian 1 position IDs

The real-time performance of the system depends largely on two factors: the Message Arrival Rate (MAR) and the Message Service Rate (MSR). The MAR and MSR are affected by several operational factors.

See *Automatic Call Distribution with an Auxiliary Data System—System Performance and Engineering Information* (NTP 553-2671-151 Appendix 2) for a discussion of MAR and MSR. Refer to the "Site preparation" chapter of this document for a more detailed discussion of Meridian MAX performance capacities.

System reliability

Automatic backup

Data used by the Meridian MAX's displays and reports is stored for historical purposes. This historical data is backed up through the Meridian MAX automatic backup facility to minimize the loss of recent changes to the system's database in the event of a disk failure.

Database files are automatically backed up to tape every midnight. Consequently, a tape must always be loaded in the tape drive. Avoid using the same tape through two consecutive backups, as the new backup overwrites the previous one. For this reason, several backup tapes should be used and rotated daily.

For more information on the Meridian MAX's capacity to store data, refer to the "Meridian MAX system configuration" chapter.

Power failure

If a power failure occurs, Meridian MAX automatically reboots and initializes the application software as soon as power is reapplied.

If you have the DC version of the Meridian MAX, you may have also acquired the battery backup option. This option allows you to connect your Meridian MAX to a battery. In the event of a power failure, such a system can be brought down safely before the battery has discharged beyond its operable limit. The AC version of the Meridian MAX does not have this option.

If an Uninterrupted Power Supply (UPS) is being used, in the event of a power failure, such a system should be backed up manually, then brought down safely before the battery has discharged beyond its operable limit. If the system is not backed up before the battery has discharged beyond its operable limit, your data for that day is lost.

Mean Time Between Failures

The Mean Time Between Failures (MTBF) value calculated for a 16-port Meridian MAX SNN Application Module is 10 500 hours at 40°C (104°F). Table 1-2 lists the major components of the Meridian MAX Application Module, their MTBF values, and the hardware platforms to which these components belong.

Table 1-2
Mean Time Between Failures (MTBF) for Meridian MAX Application Module (at 40°C)

Hardware	MTBF (hours)
Motorola MVME167 single board computer	83 500
Motorola MVME712M transition board	300 000
Motorola MVME332XTS Intelligent Serial Interface card	83 500
Motorola MVME332XT Intelligent Serial Interface card	83 500
Farnell NF350 (AC) power supply	72 000
Farnell ND300 (DC) power supply	72 000
Seagate ST31230N 1.2-Gbyte hard disk drive	800 000
Seagate ST11200N 1.2-Gbyte hard disk drive	200 000
Teac MT-2ST/F50B-000 600-Mbyte cassette drive (at 15 minutes per 8 hour period)	34 400

The MTBF value calculated for the Meridian MAX - IPE module is 35 800 hours. Table 1-3 list the major components of the Meridian MAX - IPE module and their MTBF values.

Table 1-3
Mean Time Between Failures (MTBF) for Meridian MAX - IPE module

Hardware	MTBF (hours)
Meridian MAX - IPE system	35 800
Motorola SMM167 single board computer	83 500
Seagate ST31230N 1.2-Gbyte hard disk drive	800 000
Fujitsu M2614 M2637S 240-Mbyte hard disk drive	130 000
Seagate ST1201N 180-Mbyte hard disk drive	130 000
Teac MT-2ST/F50B-000 600-Mbyte cassette drive (at 15 minutes per 8 hour period)	75 000
Teac MT-2ST/N50 155-Mbyte cassette drive (at 19 minutes per 8 hour period)	75 000
Power converter circuit board	146 000
CPU adapter circuit board	146 000

Meridian MAX and leading zeros

The Meridian 1 allows you to define certain fields with leading zeros. However, Meridian MAX does not support these leading zeros. Therefore, for accurate reporting, the following fields should not be defined with leading zeros:

- ACD-DNs
- Activity Codes
- Agent IDs
- CDNs
- DNIS numbers
- Position IDs
- Routes
- Trunks

For example, an ACD-DN of 0001 is indicated by the Meridian MAX in screen displays and reports as 1.

Chapter 2: Site preparation

Power requirements

Table 2-1 lists the power requirements for all of the hardware components used by the Meridian MAX system. Ensure that your site can provide the needed power to run all of the equipment you require.

Table 2-1
Meridian MAX power requirements

Equipment	Voltage	Frequency	Power
Meridian MAX Application Module - single (AC)	220–240 VAC	50–60 Hz	142 W
Meridian MAX Application Module - single (DC)	–48 V	n/a	142 W
Meridian MAX - IPE (DC)	+5 and –48 V	N/A	142 W
DEC VT520 or 100% compatible terminal	100–240 VAC	47–63 Hz	15 W
DEC VT420 or 100% compatible terminal (North American or World-wide models)	100–240 VAC	50–60 Hz	35 W

—continued—

Table 2-1 (continued)
Meridian MAX power requirements

Equipment	Voltage	Frequency	Power
DEC VT220 or 100% compatible terminal	100–240 VAC	50–60 Hz	35 W
Gandalf LDS 120E	110–120 VAC	60 Hz	5 W
Develcon DS511A	115 VAC	60 Hz	2 W
NetComm SmartModem M7F	15 VAC	50-60 Hz	5 W
UDS 2440 modem	115 VAC	60 Hz	14 W
Ven-Tel 2400 Plus II and 9600 Plus II modems	90–130 VAC	50–60 Hz	10 W
Racal VI2422PA modem	240, 220 or 115 V	47–63 Hz	7 W
Rugged Writer printer	100, 120, 220, 240 VAC (+/–10%) (user-selectable)	47.5–63 Hz	20 W Idle max. 80 W Printing max.
LaserJet II, LaserJet III, and LaserJet 4 printers	100, 115, 220, 240 VAC(+/-10%) (user-selectable)	48–62 Hz	170 W (115 V) Idle max. 870 W (115 V) Printing max.
LaserJet 4 Plus	100-127 VAC or 220-240 VAC	48–62 Hz	300 W
PaintJet 3630 printer	100, 120, 220, 240 VAC(+/–10%) (user-selectable)	48–66 Hz	20 W
DeskJet printer	100, 120, 220, 240 VAC (+/–10%) (user-selectable)	47.5–63 Hz	8 W (120 V) Idle max. 25 W (120 V) Printing max.
DeskJet 500 printer	120 VAC	50–60 Hz	25 W

—continued—

Table 2-1 (continued)
Meridian MAX power requirements

Equipment	Voltage	Frequency	Power
DeskJet 560C printer	100, 120, 220, 240 VAC (+/–1096) (user-selectable)	50–60 Hz	25 W
DeskJet 660C printer	100, 120, 127, 220, 230, 240 VAC (+/–10%) (user-selectable)	50–60 Hz	12 W
DEC LA195 (Epson-mode only)	95–132 VAC	47–63 Hz	33 W

—end—

Environmental requirements

Ensure that your site can maintain the required environmental conditions for the Meridian MAX hardware before beginning the installation.

Meridian MAX Application Module

The following list details the environmental requirements for your Meridian MAX hardware:

- operating temperature between 10°C–35°C (50°F–104°F)
- non-operating temperature between –10°C–60°C (14°F–140°F)
- changes in temperature less than 20°C/hour (68°F/hour)
- operating humidity between 20%–80% (non-condensing)
- non-operating humidity between 20%-80% (non-condensing)
- operating altitude between 0-3.24 km (0-10 000 ft)

Note: At all times, the front and back panels of the Application Equipment Module (AEM) should be closed and latched. This ensures that the temperature within the Meridian column remains reasonably constant and within the operating temperatures of the equipment.

Meridian MAX - IPE module

The following list details the environmental requirements for your Meridian MAX - IPE hardware:

- operating temperature between 10°C-35°C (50°F-95°F)
- non-operating temperature between –20°C-70°C (–4°F-158°F)
- changes in temperature less than 20°C/hour (68°F/hour)
- operating humidity between 20%-80% (non-condensing)
- non-operating humidity between 20%-90% (non-condensing)
- operating altitude between 0-3.24 km (0-10 000 ft)
- non-operating altitude between 0-9.14 km (0-30 000 ft)

Note: At all times, the front and back panels of the Meridian 1 should be closed and latched. This ensures that the temperature within the Meridian column remains reasonably constant and within the operating temperatures of the equipment.

If you want to use the HP LaserJet II printer then the environmental range must be between 10°C-32.5°C (50°F-90.5°F) with a maximum altitude of 2.6 km (8200 ft).

X11 software packaging requirements

The following options are required for use with Meridian MAX software:

• Basic ACD Features (Package A)	Options 40, 45, 83
• Advanced ACD Features (Package B)	Options 41, 98, 116
• ACD Reports (Package C1)	Option 42
• ACD Load Management (Package C2)	Option 43
• ACD Link (MAX/ACD-D)	Options 50, 51
• ACD Activity Code Entry	Option 155
• AUXS Security	Option 114
• ACD Timed Overflow	Option 111
• DN Expansion	Option 150

The MQA option is required if the following options are equipped on your Meridian 1:

- Multiple Queue Assignment (MQA) Option 297
- Meridian Modular Sets Option 170
- Digital Sets Option 88

The NACD MIS option is required if the following options are equipped on your Meridian 1:

- Enhanced ACD Overflow Option 178
- Network ACD (NACD) Option 207

The CCR/EAR option is required if the following options are equipped on your Meridian 1:

- Enhanced ACD Routing (EAR) Option 214
- Customer Controlled Routing (CCR) Option 215

Site layout

Each site has different restrictions and requirements for the layout of the hardware. This section identifies some of the factors to take into account when laying out the Meridian MAX site.

Consider the following factors when planning your site. The exact details for your site's layout depend entirely on your specific requirements and restrictions. You may choose to discuss these and other factors with your distributor or Nortel representative before installing the hardware.

ATTENTION

RS-232 cables that directly connect peripherals to the Meridian MAX must not exceed 15 meters (50 feet).

This length is based on an EIA RS-232C standard. Peripherals can be farther away if self-powered limited-distance (own power supply), or dial-up modems are used.

ATTENTION

Cable connections between the LAN and the Meridian MAX must not exceed 50 meters (164 feet).

This connection is an IEEE standard 802.3.

Supervisor location

Supervisors who must use common resources (such as catalogues or inventory listings) should be placed close to the resources they require.

Printer location

Locate the printers in conveniently accessible areas so the supervisors can obtain their reports. Placing one printer near the Meridian MAX allows access to printed reports while performing system maintenance functions. Remember that the maximum range for the printer cable is 15 meters (50 feet). Use self-powering, limited-distance modems to extend this range if necessary. Refer to the "Modems" chapter, "Limited distance modems" section for more information.

If a supervisor workstation is being used as a Supervisor Display Access (SDA) console (IPE hardware platform only), ensure that the workstation is located less than 15 meters (50 feet) from the Meridian MAX - IPE system. The SDA console cannot be supported via regular or limited distance modems. SDA is only available on the IPE hardware platform.

Static electricity precautions

Ensure that the appropriate precautions are taken against the discharge of static electricity. Static electricity can seriously affect any computerized system.

These are factors to be considered. The exact details for your site's layout depend entirely on your specific requirements and restrictions. You may choose to discuss these and other factors with your dealer and/or Nortel representative before installing the hardware.

Multiple Queue Assignment

There are several requirements to using Multiple Queue Assignment (MQA) with Meridian MAX. These requirements include the following:

- The minimum system requirements to use MQA are Meridian MAX 7 and X11 Release 21.16 or higher.
- You must have one of the following Meridian Modular telephone sets: M2008, M2216, or M2616 with Special Application Displays modules. Other sets are supported in MQA environments, but they are restricted to single queue operation as assigned through the administration interface or via Meridian MAX Configuration Control. The supported displays are NT2K25YL, NT2K28AA, NT2K26XJ, NT2K27XJ, NT2K25VH, and NT2K24SA.
- MQA and MSI cannot be enabled at the same time.

For more information on MQA, refer to the Meridian MAX 7 Supervisor's User Guide (P0815598), "Meridian MAX system" chapter, "Meridian MAX 7 new features" section, "Multiple Queue Assignment (MQA)" subsection.

Capacities

The Meridian MAX system capacity is controlled by two factors — software and hardware. The software controls the amount of detailed historical information collected by the system. The hardware sets an absolute limit to the amount of information that can be processed or stored. The following subsections discuss these capacities and guide the user in choosing the best software and hardware configuration to meet specific needs.

Platform capacities

SNN hardware platform

The following lists the maximum capacities for the Meridian MAX running on an SNN hardware platform:

- maximum number of configured ACD queues (ACD-DNs) is 240, including Control DNs
- maximum number of routes is 256 (the route numbers must be between 0 and 511)
- maximum number of supervisor/agent positions is 1200
- maximum recommended number of trunks is 2000

Note: Not all maximums can be achieved at the same time, and not all maximums are available on all hardware platforms.

IPE hardware platform

The following maximum capacities for the Meridian MAX running on an IPE hardware platform are hardware independent:

- maximum number of configured ACD queues (ACD-DNs) is 100, including Control DNs
- maximum number of routes is 128 (the route numbers must be between 0 and 127)
- maximum number of supervisor/agent positions available on the IPE hardware platform is 200
- maximum recommended number of trunks is 180

Depending on the hardware platform on which your Meridian MAX is running, the number of ports supported, supervisor and agent positions, queues, and calls per hour differ. Table 2-2 outlines the variances between these platforms.

Table 2-2
Meridian MAX hardware platform maximums

Platform	Number of ports	Supervisor/ agent positions	Supervisor workstations	Number of queues	Calls per hour
SNN	8/16/24/32/40	1 200	60	240	15 000
IPE	8	200	20	100	5 000

Note: Position Sizing allows the number of supervisor positions to be increased to the system maximum described in Table 2-2. To change the number of positions, a new keycode is issued. For more information, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Keycode Options Update" subsection.

Hardware-dependent capacities

Not all ports need to be assigned on your Meridian MAX system, but there are several ports that are preconfigured for a specific device and cannot be changed by the user. The predefined ports and their hardware platforms and locations are contained in the following list:

- On the SNN hardware platform, Card 2, Conn 1A is permanently assigned to the High-Speed Link and cannot be changed by the user.
- On the IPE hardware platform, Ports 1, 2 and 8 are permanently assigned to Maintenance Console, Remote Diagnostic Modem, and High-Speed Link respectively, and cannot be changed by the user. The Maintenance Console and Remote Diagnostics Modem may also be used as a supervisor display through Supervisor Display Access (SDA).
- On the SNN hardware platform, the LAN connection is made using the Ethernet port on the I/O panel.
- On the IPE hardware platform, the LAN connection is made using the Ethernet port on the NT1R03AA four-port I/O cable.

At least one workstation and one printer must be assigned per configuration.

For local printing, the local printer must be directly connected to a PC running Meridian Terminal Emulator (MTE) software. LAN capability is also required for local printing.

For the SNN hardware platform, the connections for the maintenance console and remote diagnostic modem are not included in the total number of ports available on a Meridian MAX system. For the IPE hardware platform, these device connections are included in the total number of ports available on a system.

Meridian MAX Application Module

Table 2-3 lists the theoretical maximum number of each device that can be configured on the Meridian MAX system.

Note: If your system is using MAX Status Interface (MSI), NAC connectivity is not supported.

Local printers

Your Meridian MAX 7 system can support a number of local printers in addition to the maximum number of direct connect printers described in the following tables. An SNN system can support up to 20 local printers. This number is a combination of direct connect supervisor workstations running MTE and supervisor workstations running MTE connected to the LAN.

Table 2-3
Meridian MAX hardware-dependent capacities

Hardware device	Maximum				
	8 I/O ports	16 I/O ports	24 I/O ports	32 I/O ports	40 I/O ports
High-Speed Link	1	1	1	1	1
Load Management Link	1	1	1	1	1
Printers	6	8	8	8	8
Supervisor workstations	6	14	22	30	38
NAC network link *	1	1	1	1	1

* NAC network link is a prerequisite if the system has NAC Connectivity.

Note 1: Not all maximums can be achieved simultaneously.

Note 2: System console and maintenance console are interchangeable terms in this document. Remote diagnostics modem is also referred to as diagnostics modem and external modem. Load Management Link is also called Configuration Control Link.

Table 2-4 lists the actual maximum number of each device allowed when the Meridian MAX system does not have configuration control.

Note: The total number of supervisor displays and printers assigned cannot exceed the number of free ports. Therefore, the maximum number of supervisor displays depends on the number of free ports and printers assigned.

Table 2-4
Meridian MAX hardware-dependent capacities without Configuration Control and without NAC Connectivity

Hardware device	Maximum				
	8 I/O ports	16 I/O ports	24 I/O ports	32 I/O ports	40 I/O ports
Workstations and printers (combined)	7	15	23	31	39
Supervisor workstations	6	14	22	30	38
Printers	6	8	8	8	8
High-Speed Link	1	1	1	1	1

Note: Not all maximums can be achieved simultaneously.

Table 2-5 shows the maximum number of each device that can be configured if the system has one of Configuration Control or NAC Connectivity. The Load Management Link must be configured to enable Configuration Control.

Table 2-5
Meridian MAX hardware-dependent capacities with either Configuration Control or NAC Connectivity

Hardware device	Maximum				
	8 I/O ports	16 I/O ports	24 I/O ports	32 I/O ports	40 I/O ports
Workstations and printers (combined)	6	14	22	30	38
Supervisor workstations	5	13	21	29	37
Printers	5	8	8	8	8
High-Speed Link	1	1	1	1	1
Load Management Link	1	1	1	1	1
NAC network link	1	1	1	1	1

Note: Not all maximums can be achieved simultaneously.

Table 2-6 lists the maximum number of each device that can be configured if the system has both Configuration Control and NAC connectivity. Load Management Link and the NAC network link each occupy one port.

Table 2-6
Meridian MAX hardware-dependent capacities with Configuration Control and NAC connectivity and without Remote Supervisor Link

Hardware device	Maximum				
	8 I/O ports	16 I/O ports	24 I/O ports	32 I/O ports	40 I/O ports
Workstations and printers (combined)	5	13	21	29	37
Supervisor workstations	4	12	20	28	36
Printers	4	8	8	8	8
High-Speed Link	1	1	1	1	1
Load Management Link	1	1	1	1	1
NAC network link	1	1	1	1	1

Note: Not all maximums can be achieved simultaneously.

Meridian MAX - IPE module

Table 2-7 lists the theoretical maximum number of each device that can be configured on the Meridian MAX - IPE.

Note: If your system is using MAX Status Interface (MSI), NAC connectivity is not supported.

Local printers

Your Meridian MAX 7 system can support a number of local printers in addition to the maximum number of direct connect printers described in the following tables. An IPE system can support up to 10 local printers. This number is a combination of direct connect supervisor workstations running MTE and supervisor workstations running MTE connected to the LAN.

Note: System console and maintenance console are interchangeable terms in this document. Remote diagnostics modem is also referred to as diagnostics modem and external modem. Load Management Link is also called Configuration Control Link.

Table 2-7
Meridian MAX - IPE hardware-dependent capacities

Hardware device	Maximum
Maintenance console	1
Remote diagnostics modem	1
High-Speed Link	1
Load Management Link	1
Printer	2
Supervisor workstation	4
NAC network link *	1

* NAC network link is a prerequisite if the system has NAC Connectivity.

Note: Not all maximums can be achieved simultaneously.

Table 2-8 lists the actual maximum number of each device allowed when the Meridian MAX - IPE system does not have Configuration Control or NAC Connectivity.

Note: The total number of supervisor displays and printers assigned cannot exceed the number of free ports. Therefore, the maximum number of supervisor displays varies depending upon the number of free ports and printers assigned.

Table 2-8
Meridian MAX - IPE hardware-dependent capacities without Configuration Control and without NAC Connectivity

Hardware device	Maximum number with 1 printer	Maximum number with 2 printers
Maintenance console	1	1
Remote diagnostics modem	1	1
High-Speed Link	1	1
Supervisor workstation	4	3

Note: Not all maximums can be achieved simultaneously.

Table 2-9 shows the maximum number of each device that can be configured if the system has Configuration Control and no NAC Connectivity. Load Management Link must be configured to enable Configuration Control.

Table 2-9
Meridian MAX - IPE hardware-dependent capacities with Configuration Control and without NAC connectivity

Hardware device	Maximum number with 1 printer	Maximum number with 2 printers
Maintenance console	1	1
Remote diagnostics modem	1	1
High-Speed Link	1	1
Supervisor workstation	3	2
Load Management Link	1	1

Note: Not all maximums can be achieved simultaneously.

Table 2-10 lists the maximum number of each device that can be configured if the system has both Configuration Control and NAC connectivity. Load Management Link and the NAC network link each occupy one port.

Table 2-10
Meridian MAX - IPE hardware-dependent capacities with Configuration Control and NAC Connectivity

Hardware device	Maximum number with 1 printer	Maximum number with 2 printers
Maintenance console	1	1
Remote diagnostics modem	1	1
High-Speed Link	1	1
Supervisor workstation	2	1
Load Management Link	1	1
NAC network link	1	1

Note: Not all maximums can be achieved simultaneously.

Capacity Configuration

The Capacity Configuration feature allows you to customize your Meridian MAX system parameters, making the most efficient use of your system database storage and system memory. You can control the amount of historical data storage, as well as the amount of ACD data that is being presented on the Real-time Statistics Displays. This information is displayed on the Basic Capacity Configuration screen and the Advanced Capacity Configuration screen.

You can enter specific values for each capacity parameter, including your basic system size, operation hours, storage duration, and the number of queues, routes and trunks.

ATTENTION

Consult with your system's or vendor's telecommunication engineer before attempting to configure the system database. Ensure you receive the completed and approved Capacity Configuration worksheets from the telecommunication engineer, who has determined your configuration requirements using the MAX Capacity Configuration Calculator. This preparation must be done before starting your software installation or making any modifications through the maintenance and administration screens.

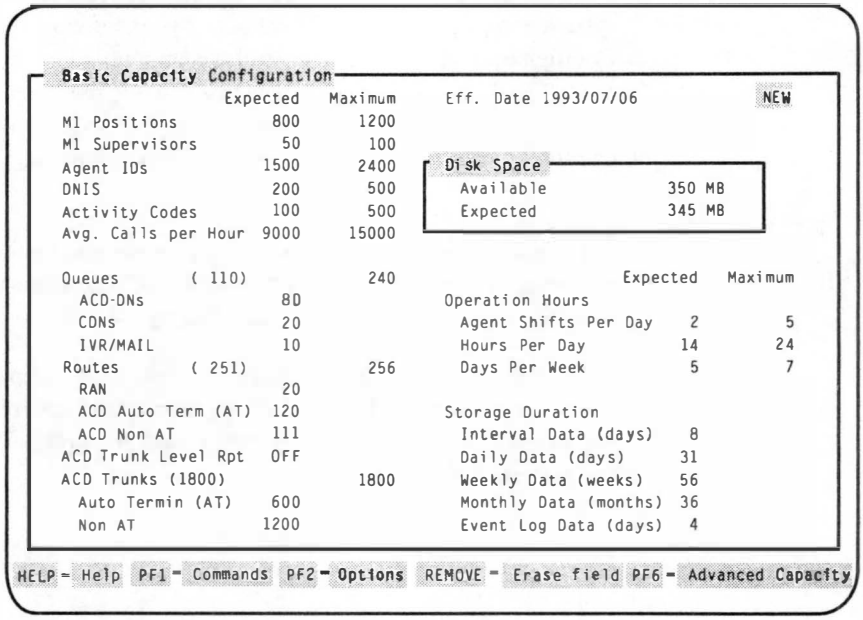
Failure to take this preparation before configuring the system database results in an improper configuration and possibly an extended installation time. Because of the large number of interdependent field values that affect database storage, the telecommunication engineer must be consulted. If the system is configured incorrectly, a subsequent system reconfiguration could take between 15 minutes and 14 hours depending on database size.

Using the Capacity Configuration feature, a different database configuration can be customized for each individual Meridian MAX system, making the most efficient use of your system database. Capacity Configuration allows you to control the amount of historical data storage, as well as the amount of ACD data that is being presented on the Real-time Statistics Displays. This information is displayed on the Basic Capacity Configuration and Advanced Capacity Configuration screens, seen in Figure 2-1.

The specific value of each capacity parameter, including your basic system size, operation hours, and storage duration, as well as the number of queues, routes, and trunks, are controlled by you.

Refer to the "Meridian MAX system configuration" chapter to configure your system database, for more information on the features and functionality of Capacity Configuration, and for copies of the Capacity Configuration Worksheets.

Figure 2-1
Sample Basic and Advanced Capacity Configuration screens



```
Basic Capacity Configuration
                      Expected   Maximum     Eff. Date 1993/07/06          NEW
M1 Positions             800      1200
M1 Supervisors            50       100
Agent IDs               1500      2400     Disk Space
DNIS                     200       500       Available            350 MB
Activity Codes           100       500       Expected             345 MB
Avg. Calls per Hour     9000     15000

Queues        ( 110)                240                        Expected   Maximum
  ACD-DNs                 80              Operation Hours
  CDNs                    20                Agent Shifts Per Day     2         5
  IVR/MAIL                10                Hours Per Day           14        24
Routes        ( 251)                256       Days Per Week            5         7
  RAN                     20
  ACD Auto Term (AT)     120              Storage Duration
  ACD Non AT             111                Interval Data (days)     8
ACD Trunk Level Rpt      OFF                Daily Data (days)       31
ACD Trunks (1800)                1800       Weekly Data (weeks)     56
  Auto Termin (AT)       600                Monthly Data (months)   36
  Non AT                1200                Event Log Data (days)    4

HELP = Help  PF1 = Commands  PF2 = Options  REMOVE = Erase field  PF6 = Advanced Capacity
```

```
Advanced Capacity Configuration
                      Expected   Default     Eff. Date 1993/07/06          NEW
Queue Operations (per int.)
  Dest. Os per CDN           4         4
  Dest. Os per ACD-DN        5         5     Disk Space
  Rem. Src. Os per ACD-DN    2         2       Available            350 MB
  Primary Answering Os      90        90       Expected             345 MB

Trunk Reassignment (per int.)
  AT Trunk to Queue        10%       20%                        Expected   Default
  Os Receiving Transfers     2         2   Agent Events (per day)
                                           Logins per Agent           4         4
Position Reassignment (per int.)           Walkaways per Agent       10        10
  Pos. to Supervisor       10%       10%
  Pos. to Queue            10%       10%

Activity Code Usage (per int.)
  Activity Codes per O     10        10

Os logged in per Agent      3         5

HELP = Help  PF1 = Commands  PF2 = Options  REMOVE = Erase field  F20 = >>
```

Printer capacities

Table 2-11 lists the print speed and the recommended maximum monthly usage values for each of the printers supported by Meridian MAX.

Table 2-11
Printer capacities

Printer	Number of pages (per minute)	Number of pages (per month)
HP RuggedWriter 480	3	5 000
HP PaintJet 3630	2	1 500
HP LaserJet II	8	5 000
HP LaserJet III	8	16 000
HP LaserJet 4	8	20 000
HP LaserJet 4 Plus	8	20 000
HP DeskJet	3	1 000
HP DeskJet 500	3	1 000
HP DeskJet 560C	3	1 000
HP DeskJet 660C	4	1 000
DEC LA195 (Epson-mode only)	2	1 000

Dialing plans

Network ACD is compatible with either a Coordinated Dialing Plan (CDP) or a Uniform Dialing Plan (UDP). UDP is supported by either Basic Alternate Route Selection (BARS Option #57), or Network Alternate Route Selection (NARS Option #58). When Meridian MAX is configured in a Network ACD application, a seven-digit dialing plan is required. A three-digit node identification and a four-digit ACD-DN comprise the seven digits.

The following is a guideline to programming the Meridian 1 X11 software for the NACD application using CDP and UDP dialing plans. This is not a complete set of programming instructions but is intended to be a guideline to the key inputs to implement the CDP or UDP Dialing plans in an NACD environment. This assumes the ISDN network is already programmed and operational.

For specific information regarding ISDN network configuration, CDP or UDP, please refer to the following NTPs for those features:

- 553-2651-102 *Coordinated Dialing Plan Description*
- 553-2751-100 *Network/Basic Alternate Route Selection*
- 553-2901-100 *ISDN Primary Rate Interface Description and Administration*

Seven-digit CDP dialing plan

If there is no CDP dialing plan or if the existing CDP dialing plan is seven digits long, then the CDP dialing can be used for the NACD application.

Overlay 86 ESN data block must have the NCDP (number of digits in the CDP code) prompt equal to seven.

Overlay 87 defines the specific three-digit LSC (Local Steering Code). The LSC must have a DMI that deletes three digits. A three-digit DSC (Distant Steering Code) is required for each Network ACD node.

Overlay 15, Customer Data Block must also define LSC as the already defined LSC from Overlay 87. This programming must be done at all nodes in the network.

Note: When defining Route List Entries in Overlay 86 that are associated with either DSCs or LOCs used with the NACD applications

- The routes must be only ISDN routes. The ISDN routes cannot STEP to non-ISDN routes.
- The PNI defined for the routes must be equal to the PNI defined in Overlay 15, Customer Data Block, of the node to which it is directly connected.

UDP dialing plan

Define AC1 or AC2 in Overlay 86, ESN Data Block.

Define Location Codes (LOC) and Home Location Code (HLOC) in Overlay 90, Network Translation Data Block, for each Network ACD node. The HLOC should have a DMI that deletes 3.

In Overlay 15, Customer Service Data Block, define HLOC as the already defined HLOC in Overlay 90.

If AC2 is used within the NACD Routing tables, then put LOC after AC2.

If AC1 is used within the NACD Routing tables, then do not put LOC after AC2.

Either AC1 or AC2 can be used, but both cannot be used in the NACD Routing Tables per NACD node. That means node A can use AC1 in its NACD Routing Table, and node B can use AC2 in its NACD Routing Table, but node A cannot use AC1 and AC2 within its NACD Routing Table.

In Overlay 16, Route Data Block, define INAC as YES on all incoming ISDN routes in the network. This programming must be done at all nodes in the network.

The three-digit node identification is equivalent to the HLOC or LOC of the Network ACD node and is also required to be programmed in the Meridian MAX system. This programming is done in the Network Definition/Installation screen under Maintenance and Administration Programs.

CDP dialing plan and UDP just for NACD routing tables

There are cases in which it is preferable to use a CDP dialing plan other than seven digits. When this is the case, CDP can be used for non-NACD environments, and UDP can be configured for just the NACD application.

Define AC1 or AC2 in Overlay 86, ESN Data Block.

Define the Location Codes (LOC) and Home Location Code in Overlay 90, Network Translation Data Block. The HLOC should have a DMI that deletes 3.

In Overlay 15, Customer Data Block, define HLOC as the already defined HLOC in Overlay 90.

If AC2 is used within the NACD tables, then put LOC after AC2.

If AC1 is used within the NACD tables, then do not put LOC after AC2. Either AC1 or AC2, but not both, can be used in the NACD tables per NACD node. That means that node A can use AC1 in its NACD Routing Table, and node B can use AC2 in its NACD Routing Table, but node A cannot use AC1 and AC2 within its NACD Routing Table.

In Overlay 16, Route Data Block, define INAC as YES on all incoming ISDN routes in the network. This programming must be done at all nodes in the network.

The three-digit node identification is equivalent to the HLOC or LOC or the Network ACD node and is also required to be programmed in the Meridian MAX system. This programming is done in the Network Definition/Installation screen under Maintenance and Administration Programs.

> ***Note:*** When assigning Route List Index (RLI) entries in Overlay 87 or Overlay 90 for DSCs and LOCs associated with NACD applications, there must be only ISDN route choices in the RLI.

Chapter 3: Hardware installation: Application Module

A word about warranties

It is extremely important that you read and understand the warranties issued for your Meridian MAX peripheral devices. Each warranty details what you can and cannot do with the warranted item.

While the utmost care has been taken to ensure that the procedures described in this NTP do not void any of the warranties, it is still possible for an instruction to be in conflict with a warranty when a warranty changes after the publication of this NTP. If you find such a condition, inform your dealer or Nortel service representative of the problem.

ATTENTION

Under no circumstances should you void your warranty for the sake of following any instruction given in this (or any other) document. Be sure to register your warranties with the appropriate companies (usually the manufacturers) where required.

Overview

Meridian MAX is an ACD-MIS product that addresses the needs of the call center market. It is designed to function within the Application Equipment Module (AEM) environment.

Table 3-1 lists the equipment and materials required for a Meridian MAX installation.

Figure 3-1 shows a front view of Meridian MAX Application Module configured for the SNN hardware platform.

Figure 3-2 shows a simplified overview of the hardware layout for a Meridian MAX installation. These figures are intended to show you how the equipment is interconnected. The actual layout of your site may differ. See the "Site Layout" section of the "Site preparation" chapter for details.

Table 3-1
Meridian MAX Application Module installation equipment and material list

Equipment	Contents
Meridian MAX 7 SNN system	Motorola MVME712M transition card Motorola NT6D51AA transition card (maximum of 5) Motorola P2 adapter board 1.2-Gbyte Seagate ST31230N hard disk drive or 1.2-Gbyte Seagate ST11200N hard disk drive 600-Mbyte Teac MT-2ST/F5OB-413 cassette drive Motorola MVME167-34 single board computer with 33 MHz M68040 CPU 32-Mbyte DRAM M68882 math coprocessor 4 RS-232C communication ports SCSI bus interface with DMA Ethernet transceiver interface Motorola MVME332XTS eight-channel asynchronous I/O board (maximum of 5) Motorola MVME332XT eight-channel asynchronous I/O board (maximum of 5) Mass storage unit (MSU) containing disk and tape drives AC or DC power supply

—continued—

Table 3-1 (continued)
Meridian MAX Application Module installation equipment and material list

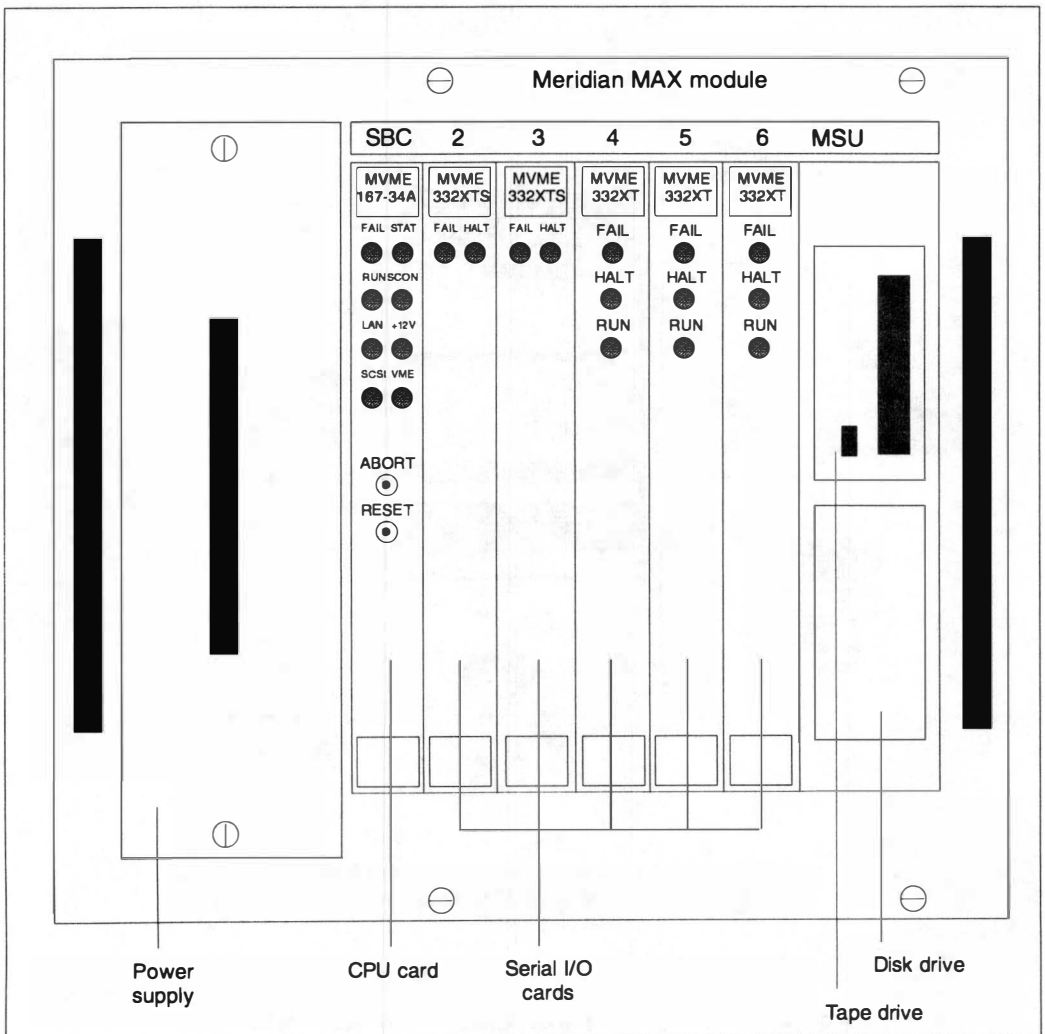
Equipment	Contents
Cables	Meridian MAX High-Speed Link (HSL) cable (NT8D93Ax for XSDI on the Meridian 1, and NT7D58Ax for SDI, QSDI, and MSDL on the Meridian SL-1) Meridian MAX Load Management Link (LML) cable (NT8D93Ax for XSDI on the Meridian 1, and NT7D58Ax for SDI, QSDI, and MSDL on the Meridian SL-1) 3 Multiport assemblies (NT8D96AE) for each MVME332XTS/XT Asynchronous Communication controller
Workstations (any combination)	VDT-type (DEC VT520, DEC VT420, DEC VT220, or HP700/32 or terminals which are 100% compatible) IBM PC AT, PS/2, or 100% compatible
Modems	NetComm SmartModem M7F Gandalf LDS 120E Develcon DS511A Ven-Tel 2400 Plus II Ven-Tel 9600 Plus Racal VI2422PA UDS EC224A/D UDS 2440
Reports printer (any combination)	HP RuggedWriter printer HP LaserJet series II printer HP LaserJet series III printer HP LaserJet series 4 printer HP LaserJet series 4 Plus printer HP PaintJet 3630 printer HP DeskJet printer HP DeskJet 500 printer HP DeskJet 560C printer (with serial-parallel converter) HP DeskJet 660C printer (with serial-parallel converter) DEC LA195 (Epson-mode only) printer

—continued—

Table 3-1 (continued)
Meridian MAX Application Module installation equipment and material list

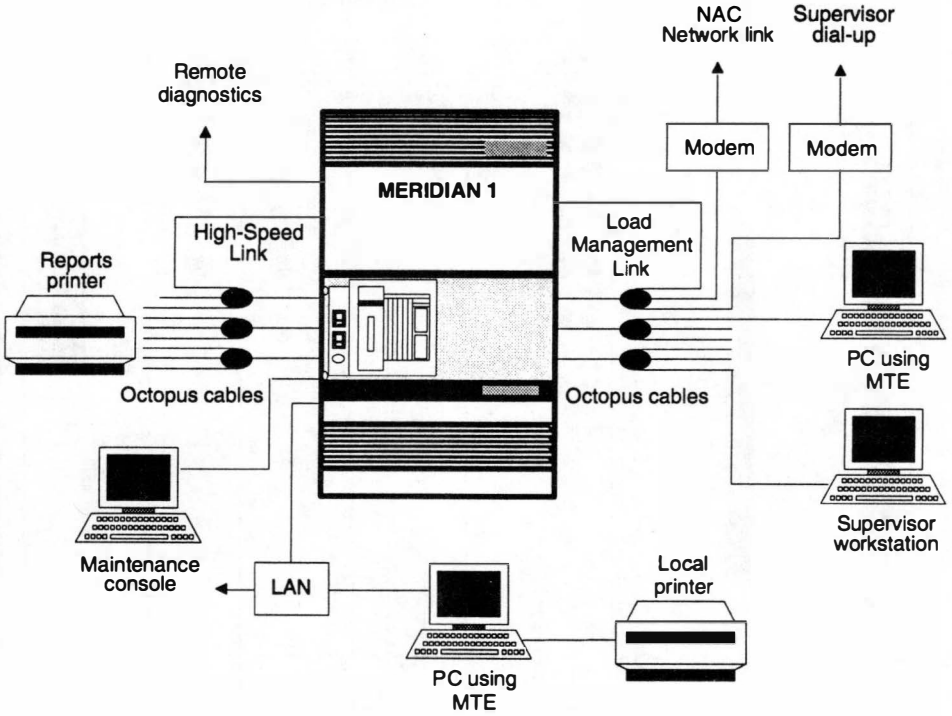
Equipment	Contents
Software	Meridian MAX Application Software (1 cassette) Motorola UNIX Operating System SYSV68 (1 cassette) Meridian Terminal Emulator (MTE) 5.32 or lower for DOS if using personal computers as workstations (optional) Meridian Terminal Emulator (MTE) 6 for Windows if using personal computers as workstations (optional) Meridian Terminal Emulator (MTE) 7 for Windows if using personal computers as workstations (optional) Reflection 4+ version 3.0 for DOS (or higher) if using personal computers as workstations (customer provided)
Documentation	P0815598 *Meridian MAX 7 Supervisor's User Guide* Set of Nortel Publications A0639866 553-4001-111 *Meridian MAX 7 Installation Guide* (P0815587) 553-4001-811 *Meridian MAX 7 Maintenance and Diagnostics Guide* (P0815589) 553-4001-911 *Meridian MAX 7 Overview* (P0815591) 553-3201-200 *Application Equipment Module Installation Guide*
Miscellaneous equipment	Serial-parallel converter for printers (A0621070)
Supplies	Minimum of 3 blank cassette tapes 600-Mbyte cassette tape (A0605411)
—end—	

Figure 3-1
Meridian MAX Application Module (SNN system)



Note: The card configuration of your system may differ.

Figure 3-2
Meridian MAX Application Module installation



This column contains a Meridian 1 switch on top shelf and a Meridian MAX single module on first shelf.

For more information on the configurations available, refer to the "Capacities" section in the "Site preparation" chapter.

Note: The High-Speed Link is connected to Card 2, Conn 1A for an SNN system.

Single board computer cards

MVME167-34

The 32-Mbyte and 33 MHz MVME167-34 single board computer (SBC) card is the central processing unit of the Meridian MAX system, based on the MC68040 microprocessor.

There are eight light-emitting diodes (LEDs) and two buttons on the front of the MVME167-34 card. The types of LEDs and their locations are shown in Figure 3-3.

The LEDs show the following conditions:

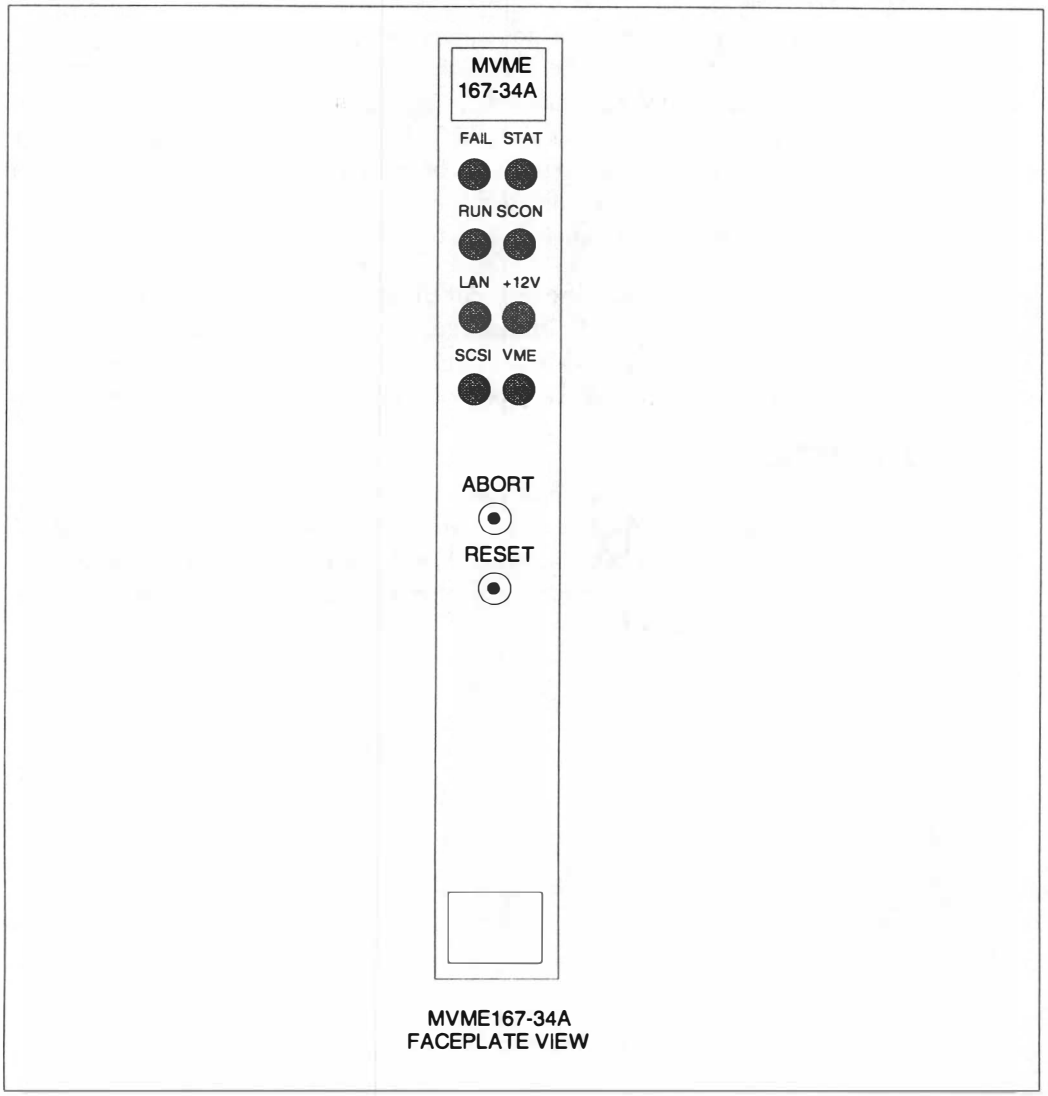
- ***FAIL*** This red LED lights when a hardware failure has occurred on the CPU card. The LED also lights for a 7 to 10 minute duration when the MVME167 card's on-board diagnostics is enabled during bootup.
- ***STAT/STATUS*** This yellow LED lights continuously, indicating a halt condition from the card processor.
- ***RUN*** This green LED lights almost continuously but flickers when the system processor has stopped.
- ***SCON*** This green LED lights continuously when the MVME167 card is the VMEbus system controller.
- ***LAN*** This green LED lights continuously when the MVME167 card's LAN microchip is the local bus master.
- ***+12V*** This green LED lights continuously when the MVME167 card is supplying +12V LAN power to the transceiver interface.
- ***SCSI (Small Computer System Interface)*** Heavy communication between devices is indicated by a solid light, while a flickering light indicates less data movement.
- ***VME*** This green LED lights when the MVME167 card is accessing or being accessed by the VMEbus.

CAUTION
Risk of system interruption
DO NOT PRESS the abort or reset button while applications are running. Shut down the system software before pressing the abort or reset buttons. This information is provided in the "Meridian MAX power-down procedure" chapter.

The following buttons produce the following conditions and should not be pressed unless under the direction of Nortel support personnel:

- ***ABORT*** This button halts the Meridian MAX system.
- ***RESET*** This button reinitializes the Meridian MAX system. The system performs a self test and then reboots.

Figure 3-3
LED locations for MVME167-34 card



Transition cards

MVME712M

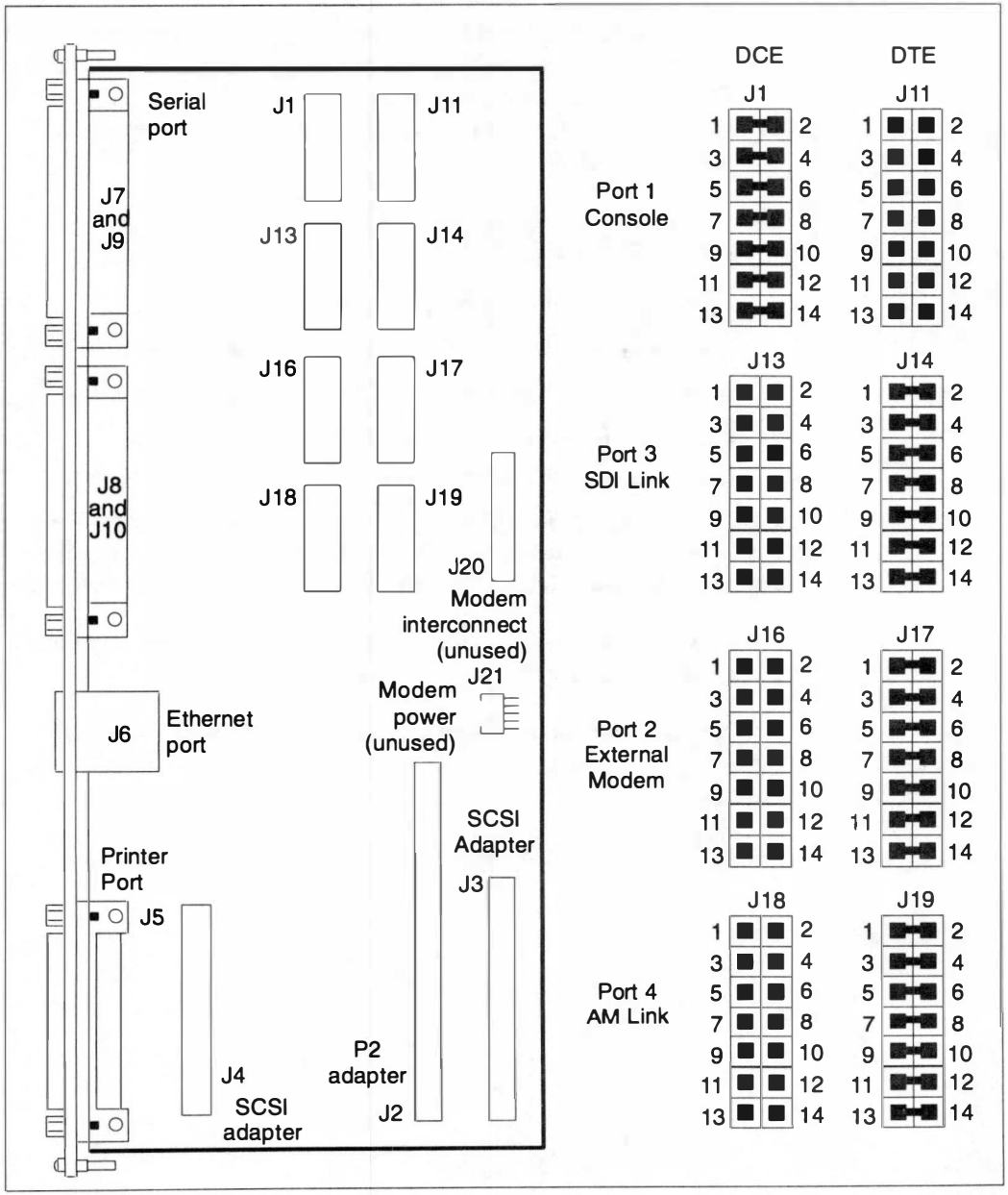
The MVME712M transition card is used as the interface between MVME167 family modules and the interconnect cables that attach to the I/O panel of the Meridian MAX. The features of the MVME712M card are one independent printer port and four 25-pin multi-protocol RS-232 serial ports. These four serial ports can be configured as asynchronous but two of the ports can also be configured as synchronous ports as well. Figure 3-4 shows the default switch settings for this card.

This transition card also provides a LAN connection through an Ethernet port supplied by a 15-pin connector that is connected to a customer supplied transceiver (MAU). The Ethernet pinouts are detailed in Figure 3-11. A SCSI port is also provided to interface with external SCSI devices.

NT6D51AA

The NT6D51AA transition card is used as the interface between the MVME332XTS/XT serial I/O cards and the interconnect cables that attach to the I/O panel of the Meridian MAX. The features of the NT6D51AA card are three 25-pin connectors that provide eight ports for connection to peripheral devices.

Figure 3-4
MVME712M transition card showing jumper switch settings



MVME332XTS and MVME332XT eight-channel asynchronous boards

Both the MVME332XTS and MVME332XT eight-channel asynchronous boards connect the Meridian MAX module with all external devices via the NT6D51AA transition card, interconnect, and external cables. Each MVME332XTS/XT eight-channel asynchronous board can communicate with a maximum of eight devices.

There are five different Meridian MAX configurations for the MVME332XTS/XT card:

- single module with one MVME332XTS/XT card (8 ports)
- single module with two MVME332XTS/XT cards (16 ports)
- single module with three MVME332XTS/XT cards (24 ports)
- single module with four MVME332XTS/XT cards (32 ports)
- single module with five MVME332XTS/XT cards (40 ports)

Each board in a Meridian MAX module has two banks of switches — a bank of eight and a bank of four. The set of eight switches has a unique setting for each card. Table 3-2 shows the settings for this bank of switches.

For the bank of four switches, the settings on all cards are the same: 1 and 2 are off, and 3 and 4 are on.

Refer to Figure 3-6 for the switch locations on the MVME332XTS/XT card.

Figure 3-5
LED locations for MVME332XTS and MVME332XT cards

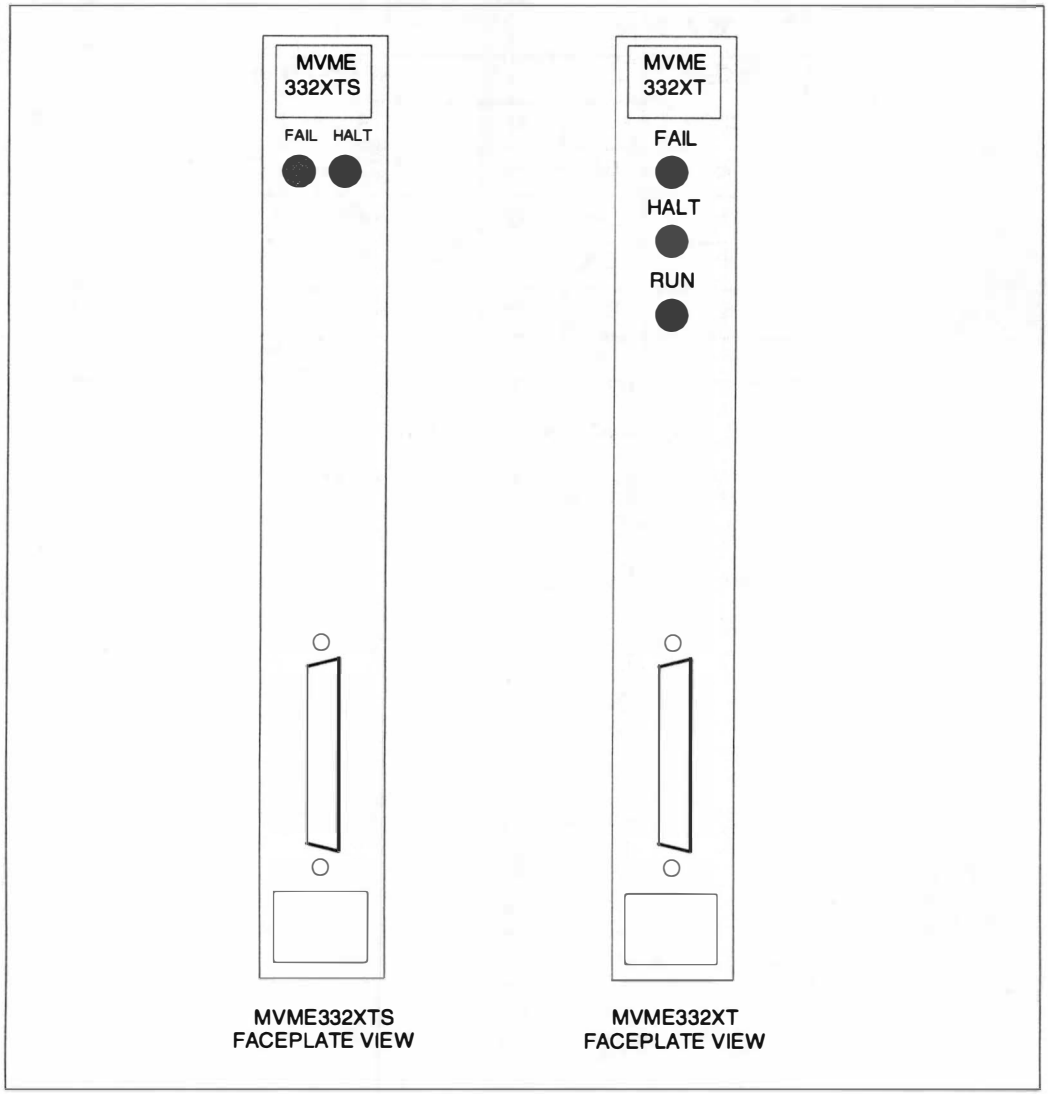


Table 3-2
MVME332XTS/XT eight-channel asynchronous board's eight-switch bank settings

AM Card Slot	Switch Setting							
	1	2	3	4	5	6	7	8
2	ON	OFF	OFF	OFF	OFF	ON	ON	ON
3	ON	OFF	OFF	OFF	OFF	ON	ON	OFF
4	ON	OFF	OFF	OFF	OFF	ON	OFF	ON
5	ON	OFF	OFF	OFF	OFF	ON	OFF	OFF
6	ON	OFF	OFF	OFF	OFF	OFF	ON	ON

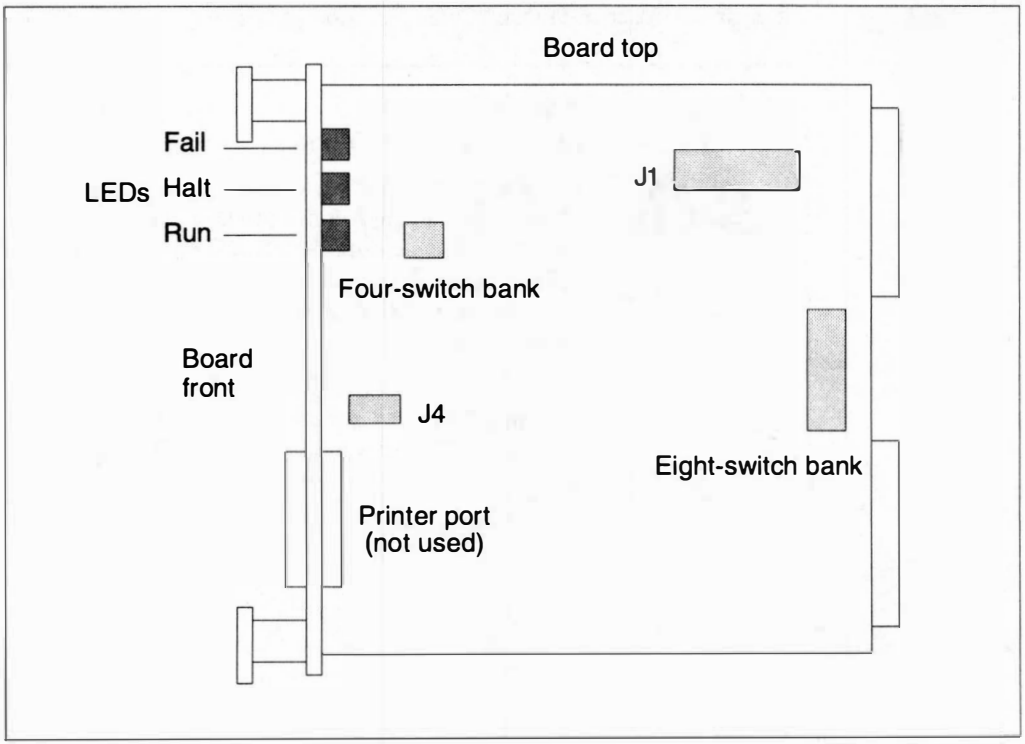
Use jumpers to connect the following pins:

- On J1: 1 to 2, 5 to 6, 7 to 9, 8 to 10, 11 to 12, and 15 to 17
- On J4: jumper 1 to 2.

There are two light-emitting diodes (LEDs) on the faceplate of the MVME332XTS card and three LEDs on the faceplate of the MVME332XT card. The LEDs show the following conditions:

- ***FAIL*** This red LED lights when a hardware failure has occurred on the card.
- ***HALT*** This red LED lights steadily when the processor has stopped.
- ***RUN*** This green LED lights almost continuously but flickers every few seconds when applications are running normally. This indicator only appears on the MVME332XT card.

Figure 3-6
MVME332XTS/XT eight-channel asynchronous board switch locations



Meridian MAX Application Module

Once you have obtained your Meridian MAX system, you must install the Application Module (AM) into your Application Equipment Module (AEM). The MVME167-34 and MVME332XTS/XT cards are already installed in the AM. The power supply and mass storage unit (MSU) must then be installed in the AM.

If your Meridian MAX system was shipped already installed in the AEM, most of the AM is already assembled. The MVME167-34 and MVME332XTS/XT cards, power supply, and mass storage unit (MSU) need to be installed.

Make sure the internal, interconnect, and external input/output cables are connected as described in the "Cables" section of this chapter.

CAUTION
Risk of data corruption

If installing or upgrading an Application Module (AM) in an existing Application Equipment Module (AEM), ensure each AM is powered down before beginning an installation or upgrade. Failure to power down each AM may cause unpredictable results.

If your upgrade is performed on an existing system, follow the instructions contained in the "Meridian MAX power-down procedure" chapter.

Installing the Application Module

Procedure 3-1 details instructions on installing the Meridian MAX Application Module as well as the MVME167-34 and MVME332XTS/XT cards.

Procedure 3-1
To install the Application Module

1 Ensure the circuit breaker (CB) of the module in which you are installing the power supply is in the off position.

2 Remove the front panel covering the AM cage.

Loosen the four screws at the front panel of the AM cage and pull the panel and attached cage away from the AEM.

3 Install the new Meridian MAX SNN Application Module into the AEM.

Align the AM with the guides at the top and bottom of the AM cage of the AEM and slowly slide the AM into the AEM. Be careful to make sure the cables and I/O panel are drawn through to the rear of the AEM as the AM is being inserted. Tighten the four screws at the front of the AM.

4 Connect the I/O panel to the I/O panel section at the rear of the AEM.

Line up the eight screw holes of the I/O panel with the eight screw holes on the frame of the AEM. Connect the I/O panel to the AEM using the eight screws.

5 Connect the NT7D55AD power cable at the rear of the AEM.

At the back of the column, locate the power cable running from socket J8. Connect this cable to the P3 or P4 socket, which can be found behind a metal plate behind the shelf's main power circuit breakers. The first module's power cable connects to the P3 socket, and the second module's power cable connects to the P4 socket.

6 Connect the NT7D52AA Power Sensor Cable at the rear of the AEM.

Locate the Power Sensor Cable (two thin wires, yellow and grey, with a small plug at the end). Connect it to the power monitor located at the base of the AEM, between the two Application Modules.

Note: It may be necessary to temporarily disconnect the cable NT8D46AC and the PDU cable to make it easier to locate the correct socket for connecting the Power Sensor Cable. Make sure that you restore these cables to their original sockets after you have plugged in the Power Sensor Cable.

7 Connect the ground wire to the terminal block.

The orange ground wire connects to the terminal block, located at the base of the AEM between the two Application Modules, using a lug connector.

8 Install the Application Module power supply.

Refer to the "Installing the power supply" subsection for instructions.

9 Install the Meridian MAX 7 SNN system mass storage unit (MSU).

Refer to the "Installing the mass storage unit (MSU)" subsection for instructions.

10 Your MVME332XTS/XT cards may come already installed in the system. You should verify the switch settings of each MVME332XTS/XT card.

Refer to the "Hardware upgrades and replacements" section, "Adding MVME332XTS/XT cards to an SNN system" subsection for more information on the removal and installation of MVME332XTS/XT cards.

Refer to the "MVME332XTS and MVME332XT eight-channel asynchronous boards" section of this chapter for switch setting information.

11 You may install additional MVME332XTS/XT cards into your Meridian MAX 7 SNN system.

Refer to the "Hardware upgrades and replacements" section, "Adding MVME332XTS/XT cards to an SNN system" subsection for more information on the installation of MVME332XTS/XT cards.

12 Connect your system console to the Meridian MAX using an NT7D61Ax cable.

The DB-25 end connects to the workstation, and the DB-9 end connects to the SYS CONS port on the I/O panel located at the rear of the Application Equipment module (AEM).

13 Configure the system console.

Refer to the "Workstation, HSL, and LML configuration" chapter, "Workstation configuration" section for more information on configuring the system console.

14 Configure the MVME167 card.

Refer to the "Configuring the MVME167-34 card" section for instructions to configure the MVME167 card.

15 Install the Meridian MAX 7 SNN system software.

Refer to the "New software installations" chapter for information on software installation.

16 Connect all external cables to the new I/O panel.

Refer to the "Cables" section of this chapter for information on external cable connections.

Installing the power supply

The power for your Meridian MAX Application Module is supplied by either an AC or DC power supply unit. Procedure 3-2 details instructions on installing the power supply.

Procedure 3-2
To install the power supply

1 Ensure the circuit breaker (CB) of the module in which you are installing the power supply is in the off position.

2 Install the Application Module power supply. (If you have replaced a previous system, use the power supply from that system.)

3 Gripping the handle at the front of the power supply faceplate, line up the power supply with the guides at the top and bottom of the power supply slot of the AM.

4 Slowly slide the power supply into the AM until the faceplate is flush with the front of the AM.

5 Tighten the two screws located at the top and bottom of the power supply faceplate.

Installing the mass storage unit

Your Meridian MAX mass storage unit (MSU) contains the system disk and tape drives. Procedure 3-3 details instruction on installing the MSU.

Procedure 3-3
To install the MSU

1 Ensure the circuit breaker (CB) of the module in which you are installing the power supply is in the off position.

2 Install the Meridian MAX 7 SNN system mass storage unit (MSU).

3 Carefully align the unit with the guides at the top and bottom of the AM.

4 Slide the unit into the card cage until the faceplate is flush with the front of the AM.

Note: If you are uncertain as to whether the MSU is in as far as it can go, simultaneously press up on the top latch and down on the bottom latch. If the card pops forward slightly, then the card was in as far as it could go.

5 Tighten the two screws at the top and bottom of the MSU faceplate.

Meridian MAX Application Module label

Your Meridian MAX system is supplied with an Application Module label (P0800734) that contains a Meridian MAX and a Meridian NAC sticker.

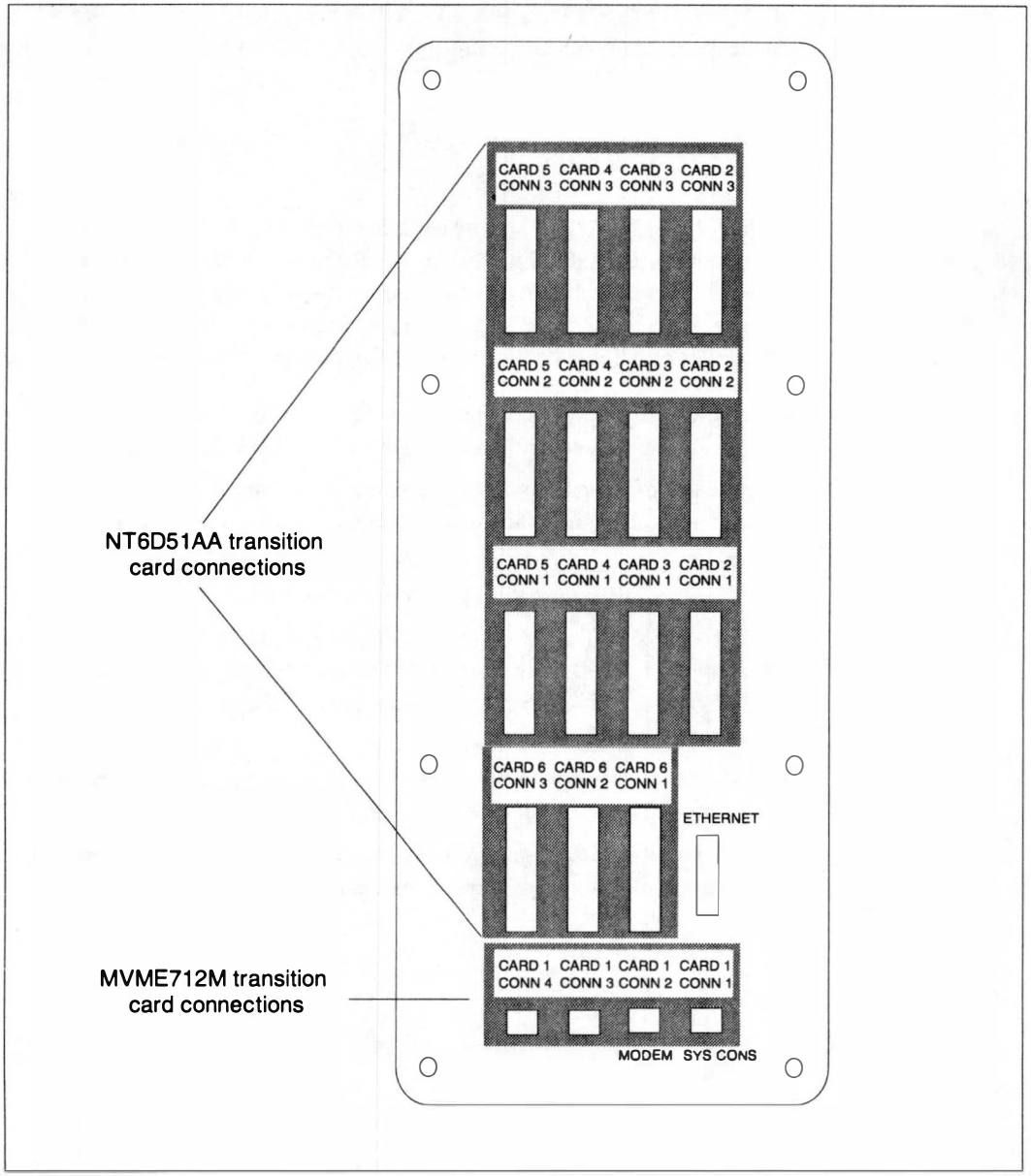
The Meridian MAX sticker should be adhered to the application module front panel above the NT7D19SA label.

Input/output panels

The Generic I/O panel is used with the SNN hardware platform, and it is to this panel that all I/O cable connections are made. This I/O panel is removable.

The Generic I/O panel has 20 connectors as shown in Figure 3-7. The serial I/O ports (labelled from Card 2-Conn 1 to Card 6-Conn 3) are 25-pin (DB-25) connectors, and the Ethernet port provides a 15-pin connector. The Central Processing Unit (CPU) ports labelled Card 1-Conn 1 to Card 1-Conn 3 are 9-pin (DB-9) connectors. The port labelled Card 1-Conn 4 is a 15-pin high density connection.

Figure 3-7
Generic input/output connector panel (SNN system)



Input/output port assignments

There are five versions of the SNN hardware platform based on the number of MVME332XTS/XT cards configured on the system. An SNN system can be configured with anywhere from one to five MVME332XTS/XT cards.

> *Note:* Card 1, Conn 1 on the generic I/O panel connects to the system console.

Each MVME332XTS/XT, or I/O card, has a maximum of three ports that can be connected to multiport cables as seen in the "VME multiport cable" subsection. Each multiport cable has three RS-232 serial port connectors labelled A, B, and C. The ports in the multiport cable can be connected to peripherals or a limited choice of other devices, except where noted below.

- Cable A of the multiport cable connected to Card 2, Conn 1 must be connected to the Meridian 1 for use with the High-Speed Link.
- Cable C of the multiport cable connected to Conn 3C of each card cannot be used, and should not be connected to any type of device.
- If your system is equipped with the Configuration Control feature, you must use one of the cables to connect to the Meridian 1.
- If your system has NAC connectivity, you require a port for the Network Link. Bear in mind that the Network Link can only be assigned to a single port and reduces the number of printers or supervisor workstations by one.
- At least one supervisor workstation and one printer must be connected to any I/O card through the multiport cable.

Aside from these restrictions, you can attach the remainder of the cables to supervisor workstations, printers, or modems.

Note: The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

Table 3-3 provides you with a chart which lists all of the assignable ports for the SNN hardware platform as they appear on the Meridian MAX Communication Port Assignment screen, and shows the type of device which can be connected to each port. As you decide upon the device to connect to each port, enter the device name in the space provided. If you are assigning a Supervisor Workstation, Remote Login, or Network Link, you must specify the type of connection: Direct, Dial-up at 2400 baud, or Dial-up at 9600 baud. This information is requested during the software installation.

Figure 3-7 shows the Generic Input/Output connector panel for the SNN hardware platform. It identifies the ports which are connected to the multiport cables. The other end of the cables are connected to the peripherals identified by you in Table 3-3.

Please note the following abbreviations:

- HSL (High-Speed Link)
- SW (Supervisor Workstation)
- PRT (Printer)
- LML (Load Management Link)
- NL (Network Link (NetLink))

Please note the following abbreviations for connection type:

- DC (Direct Connection)
- 24 (Dial-up connection at 2400 baud)
- 96 (Dial-up connection at 9600 baud)

Note: The "Connection type" column in the following table lists all of the possible connections. Some connection types cannot be applied to some devices available. For example, the only connection type possible for a printer is direct connection. Ensure that you do not select an inappropriate connection type.

Table 3-3
Communication port assignment sheet

Card slot	Port	Cable	Devices available	Device selected	Connection type
2	CARD 2, CONN 1	A	HIGH-SPEED LINK	HSL	N/A
2	CARD 2, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
2	CARD 2, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 1	A	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
3	CARD 3, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 1	A	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96

—continued—

Table 3-3 (continued)
Communication port assignment sheet

Card slot	Port	Cable	Devices available	Device selected	Connection type
4	CARD 4, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
4	CARD 4, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 1	A	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
5	CARD 5, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 1	A	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 1	B	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 1	C	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 2	A	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 2	B	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 2	C	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 3	A	SW / PRT / LML / NL		DC / 24 / 96
6	CARD 6, CONN 3	B	SW / PRT / LML / NL		DC / 24 / 96

—end—

Cables

Internal input/output cables

Meridian MAX internal cables are used to interconnect all devices which are not connected through the VME bus backplane, but still require input/output capability. Table 3-4 lists all of the internal I/O cables available. Figure 3-8 shows a cabling schematic for the SNN hardware platform. These figures identify the cables and devices which must be connected for the Meridian MAX Application Module system.

Table 3-4
Internal input/output cables

ENG code	Application	Cable and connector style	From	To
NT7D52AA	VME XSM cable carries the PSTAT signals from the power sense PCB to the power monitor PCB	3 pin connectors (twisted wire)	Power Sense Board (P1)	Power Monitor Board (P1 if module on left, P2 if module is on right)
NT7D53AA	VME SCSI cable extends the SCSI from the floating connectors to the MSU	50 Telco at floating panel, 2 x 25 connectors at the drives	Floating plate (J3)	Tape Drive (J1) and Disk Drive (J1)
NT7D56AB	VME SCSI extension cable extends SCSI from P2 adapter to the external SCSI port via 712AM and to connector at MSU	2 x 25 connector at P2 and MVME712AM/M 50 Telco at MSU	P2 adapter (J3)	External SCSI port MSU (P3)

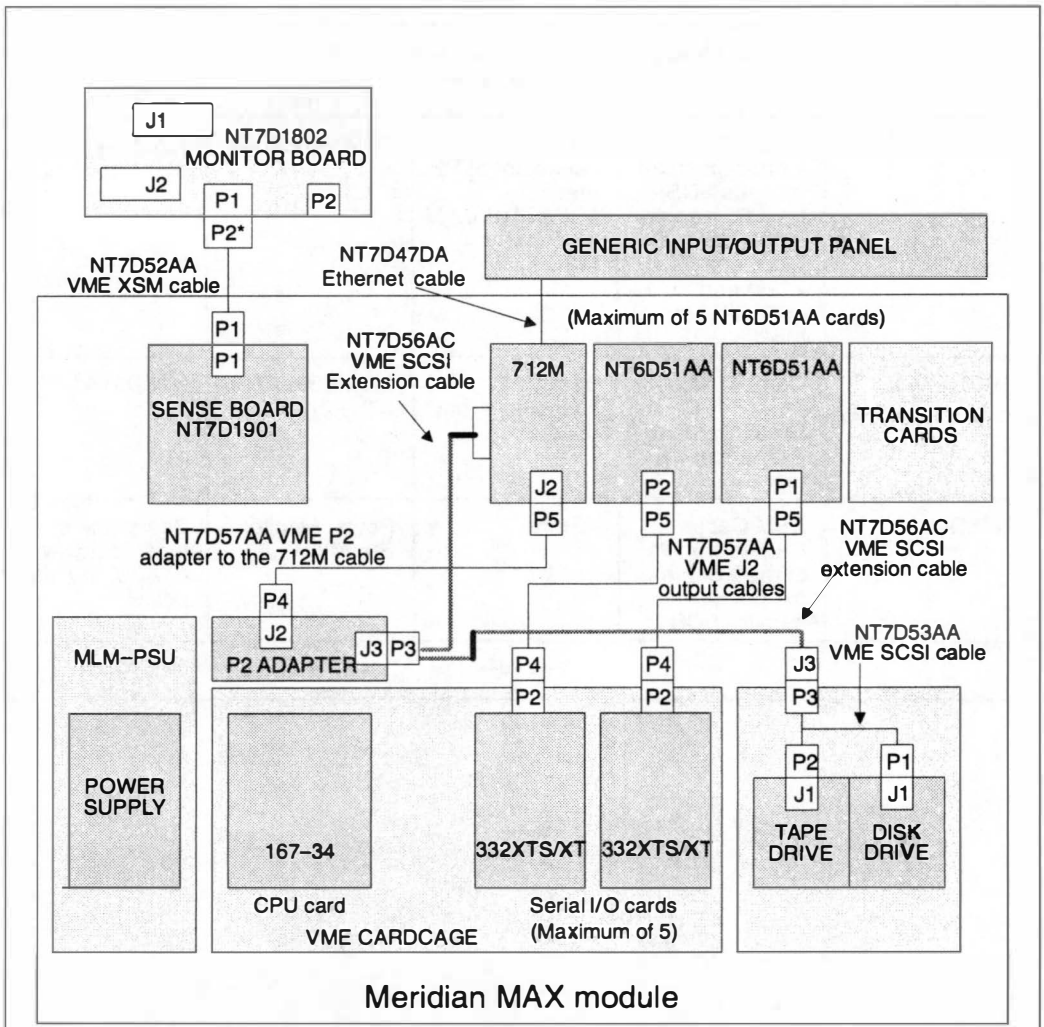
—continued—

Table 3-4 (continued)
Internal input/output cables

ENG code	Application	Cable and connector style	From	To
NT7D56AC	VME SCSI extension cable extends SCSI from P2 adapter to the external SCSI port via 712M and to connector at MSU	2 x 25 connector at P2 and MVME712AM/M 50 Telco at MSU	P2 adapter (J3)	External SCSI port MSU (P3)
NT7D57AA	Carries I/O from ISI and ICC circuit cards to their transition modules	64 pin DIN connectors (flat ribbon)	MVME332XTS/ XT (P2)	NT6D51AA (P2)
NT8D46AA	XSM Cable. Carries signals to the XSM from the power monitor PCB	40 pin	Power Monitor Board (J1, J2)	Backplane of module below or XSM or AEM below

—end—

Figure 3-8
Internal input/output cabling—SNN hardware platform



* This cable connects to P1 if the module is on the left side of the shelf, and to P2 if the module is on the right side of the shelf.

Interconnect input/output cables

Meridian MAX interconnect cables exit from the rear of the transition modules/cards and terminate on the Application Equipment Module's die-cast input/output panel via a custom input/output panel and radio-filtered connectors.

Table 3-5 lists all of the interconnect I/O cables. Figure 3-16 shows the cabling schematics for the SNN hardware platform, which identifies the cables and devices which must be connected for a system.

The term "input/output connector panel" refers to the "Generic I/O panel."

Table 3-5
Interconnect input/output cables

ENG code	Application	Cable and connector style	Length
NT7D47DA	Carries input/output between the MVME712M transition card and the Input/Output connector panel (Ethernet)	15-pin (male) Ethernet to 15-pin (female) Ethernet	35.5 cm (14 inches)
NT7D58CA	Carries input/output between the Input/Output connector panel (Card 1, Conn 4) and the MVME712M transition board (Serial Port 4)	15-pin (female) high density D-sub to 25-pin (male) round subminiature D-style	35.5 cm (14 inches)
NT7D79BA	Carries input/output between the Input/Output connector panel (Card 1, Conn 1-3, modem and SDI Link) and the MVME712M transition board (Serial Ports 1, 2 and 3)	9-pin (male) to 25-pin (male) subminiature D-style	35.5 cm (14 inches)
NT7D95AA	Carries input/output between the Input/Output connector panel (Card 2-6, Conn 1-3) and the NT6D51AA transition board	25-pin (male) subminiature D-style to 25-pin (male) subminiature D-style	35.5 cm (14 inches)

External input/output cables

Meridian MAX external cables exit from the rear of the Application Module and terminate on the Universal Equipment Module's die-cast input/output panel via a custom input/output panel and radio-filtered connectors.

Table 3-6 lists all of the external I/O cables. Figure 3-16 shows the cabling schematic for the SNN hardware platform. It identifies the cables and devices that must be connected for a system.

Table 3-6
External input/output cables

ENG code	Application	Cable and connector style	Length
NT1R03DB NT1R03DC NT1R03DF NT1R03DP NT1R03DV	Connects as input/output between modems and peripheral devices	DB-25 (male) connector to DB-25 (male) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT1R03EB NT1R03EC NT1R03EF NT1R03EP NT1R03EV	Connects as input/output between modems and peripheral devices	DB-25 (male) connector to DB-25 (female) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT7D47EA	Carries input/output between the Input/Output connector panel (Ethernet) and the customer supplied transceiver	15-pin (male) connector with thumb screws to 15-pin (female) connector with sliding latch	3 m (10 ft)

—continued—

Table 3-6 (continued)
External input/output cables

ENG code	Application	Cable and connector style	Length
NT7D58AB NT7D58AD NT7D58AF NT7D58AL NT7D58AT NT7D58AV	Carries input/output between the Input/Output connector panel and the SDI port Used for SDI cards, QPC139, QPC841, and for terminals and printers (with A0351509 gender changer) This cable is also used to connect a Meridian MAX system to Option 11.	25-pin (male) subminiature D-style connector to 25-pin (male) subminiature D-style connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT7D58BB NT7D58BD NT7D58BF NT7D58BL NT7D58BT NT7D58BV	Carries input/output between the Input/Output connector panel (Card 1, Conn 4) and the Meridian 1/SL-1	15-pin (male) high-density connector to 25-pin (female) connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT7D61AB NT7D61AD NT7D61AF NT7D61AL NT7D61AT NT7D61AV	Carries input/output between the Input/Output connector panel and the Meridian MAX system console (with A0351509 gender changer)	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT8D93AJ NT8D93AW	Carries input/output between the Input/Output connector panel and the XSDI port Used for the XSDI card, NT8D41	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	4.9 m (16 ft) 14.6 m (48 ft)
NT8D96AE	Carries input/output between the Input/Output connector panel and the peripheral devices connected to the Meridian MAX	Single DB-25 (male) at the I/O panel's end to three DB-25 (female) connectors	2.4 m (8 ft)

—continued—

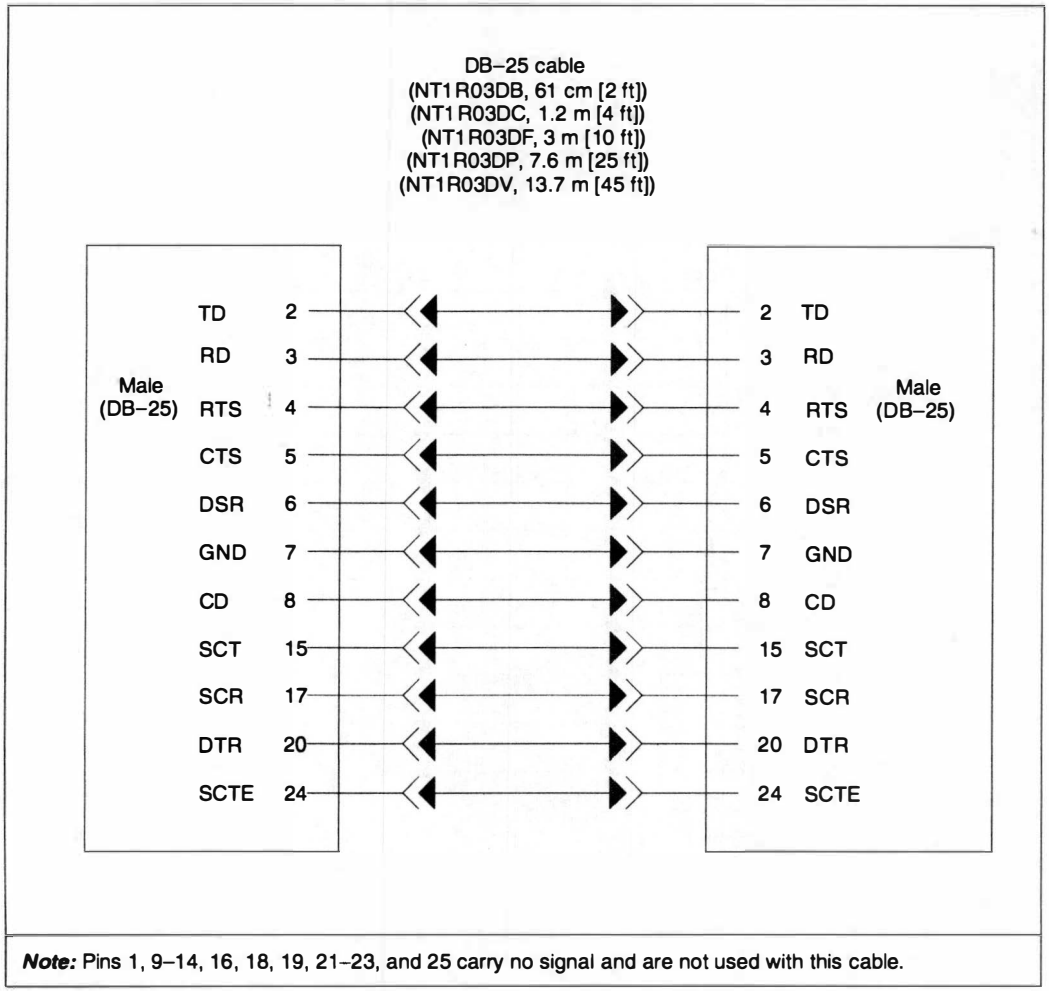
Table 3-6 (continued)
External input/output cables

ENG code	Application	Cable and connector style	Length
NT7D99AA	Connects as input/output between Meridian MAX and dial-up modem, as well as between Meridian MAX and LDS modem.	25-pin (male) subminiature D-style DB-25 connector to 25-pin (male) subminiature D-style DB-25 connector	3 m (10 ft)

—end—

Figure 3-9 shows the cable arrangement for NT1R03Dx when supplying a connection between a modem and a peripheral device.

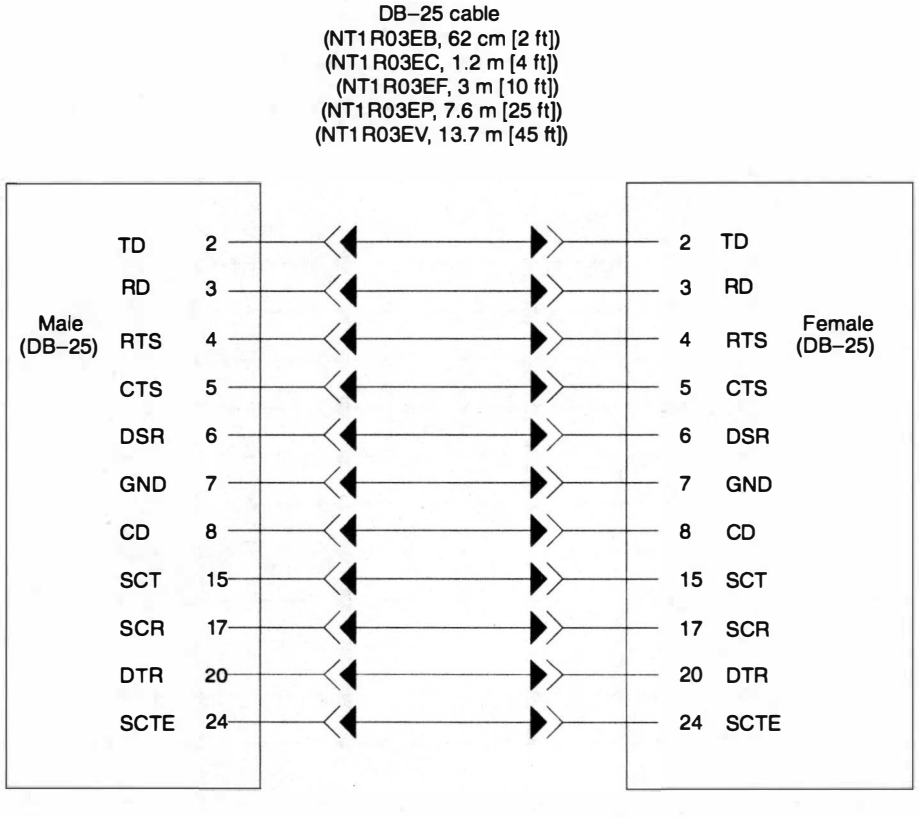
Figure 3-9
Cabling arrangement—modem connection cable NT1R03Dx



Note: Pins 1, 9–14, 16, 18, 19, 21–23, and 25 carry no signal and are not used with this cable.

Figure 3-10 shows the cable arrangement for NT1R03Ex when supplying a connection between a modem and a peripheral device.

Figure 3-10
Cabling arrangement—modem connection cable NT1R03Ex



Note: Pins 1, 9-14, 16, 18, 19, 21-23, and 25 carry no signal and are not used with this cable.

Figure 3-11 shows the cable arrangement for NT7D47EA when supplying a Ethernet connection for a LAN.

Figure 3-11

Cabling arrangement—Meridian MAX cable NT7D47EA used for LAN through Ethernet connection

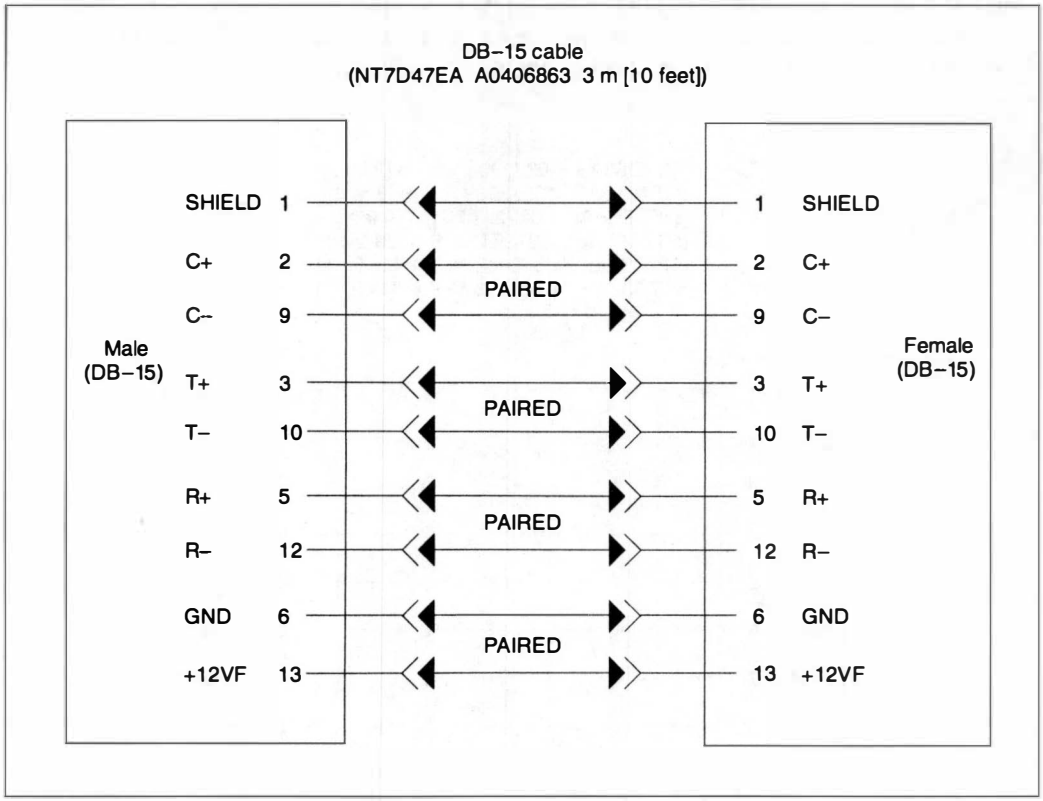


Figure 3-12 shows the cable arrangement for NT7D58Ax when supplying a HSL or LML connection between Meridian MAX and the Meridian 1 or Option 11. It can also be used for printer connections and terminal connections (with A0351509 gender changer).

Figure 3-12

Cabling arrangement—Meridian MAX cable NT7D58Ax used for High-Speed Link (HSL), and Load Management Link (LML) connections to Meridian 1; to Option 11; and for terminals (with the A0351509 gender changer) and printer connections

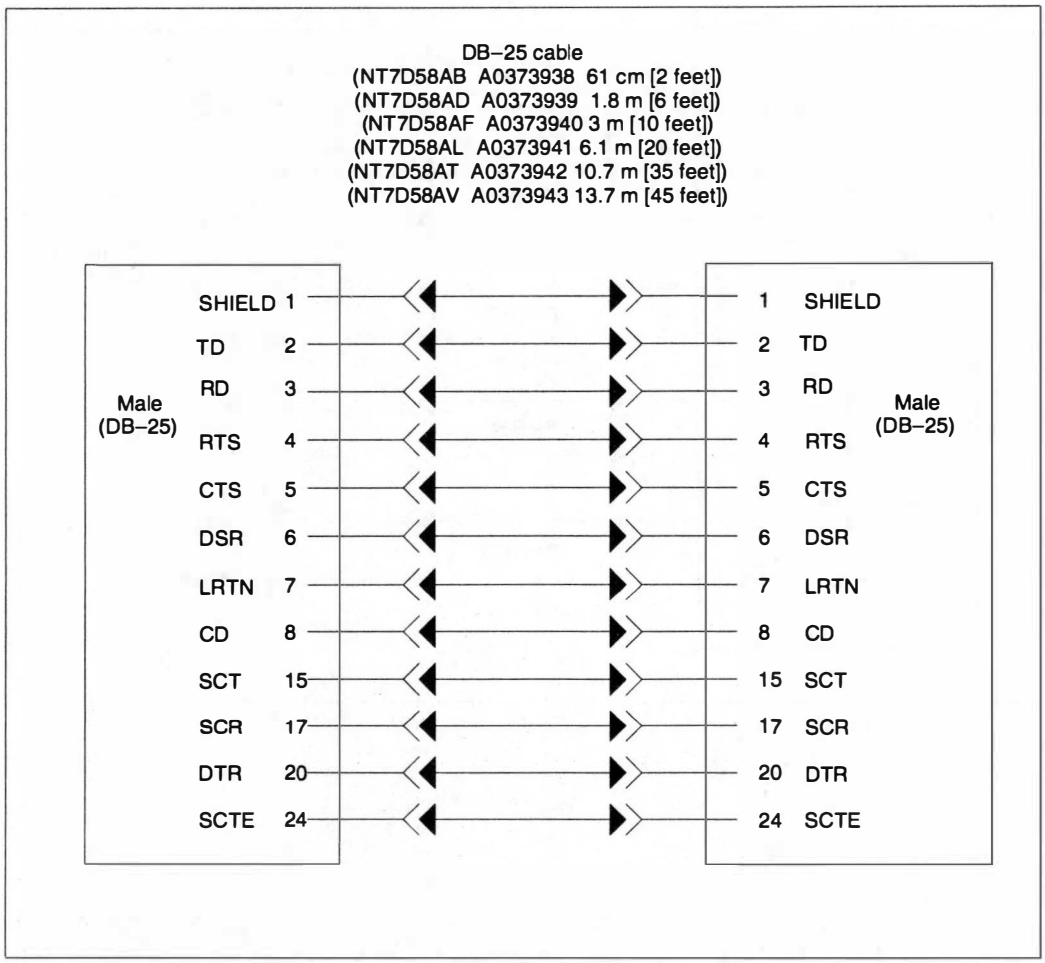


Figure 3-13 shows the cable arrangement for NT7D61Ax when it is used for the system console or system external modem.

Figure 3-13

Cabling arrangement—Meridian MAX cable NT7D61Ax used for the system console, or an SNN system external modem

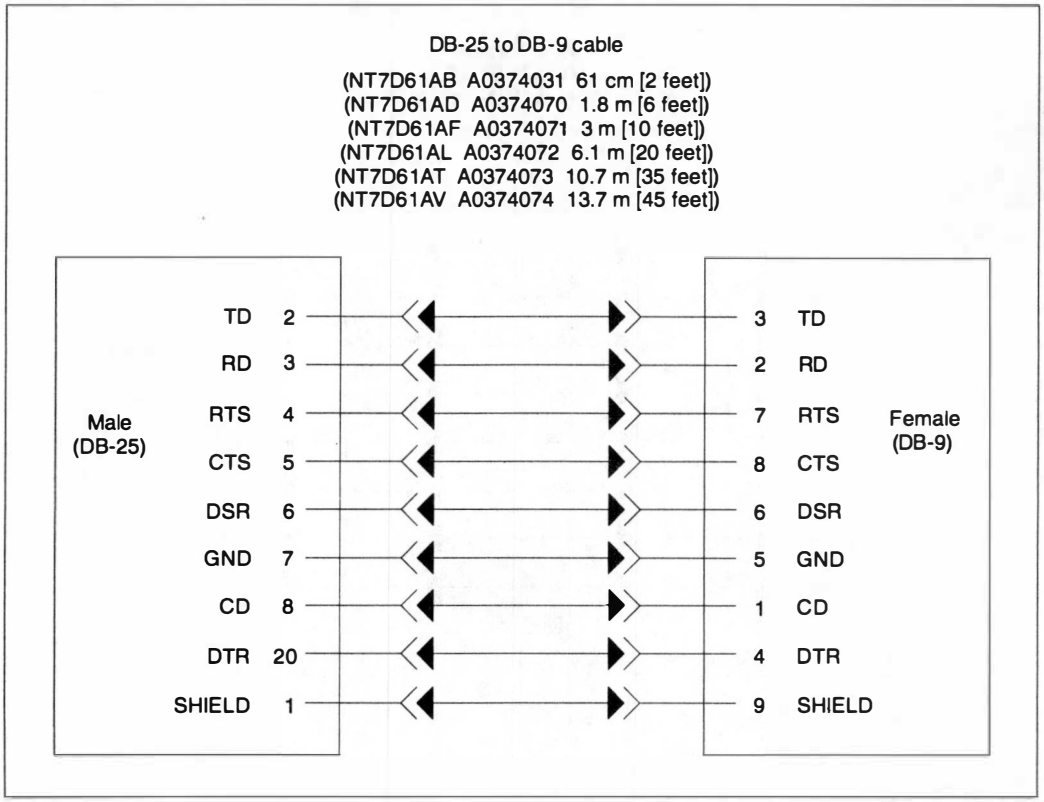


Figure 3-14 shows the cable arrangement for NT8D93Ax when supplying a HSL or LML connection between Meridian MAX and the Meridian 1.

Figure 3-14
Cabling arrangement—Meridian MAX cable NT8D93Ax used for High-Speed Link (HSL) and Load Management Link (LML) connections to Meridian 1

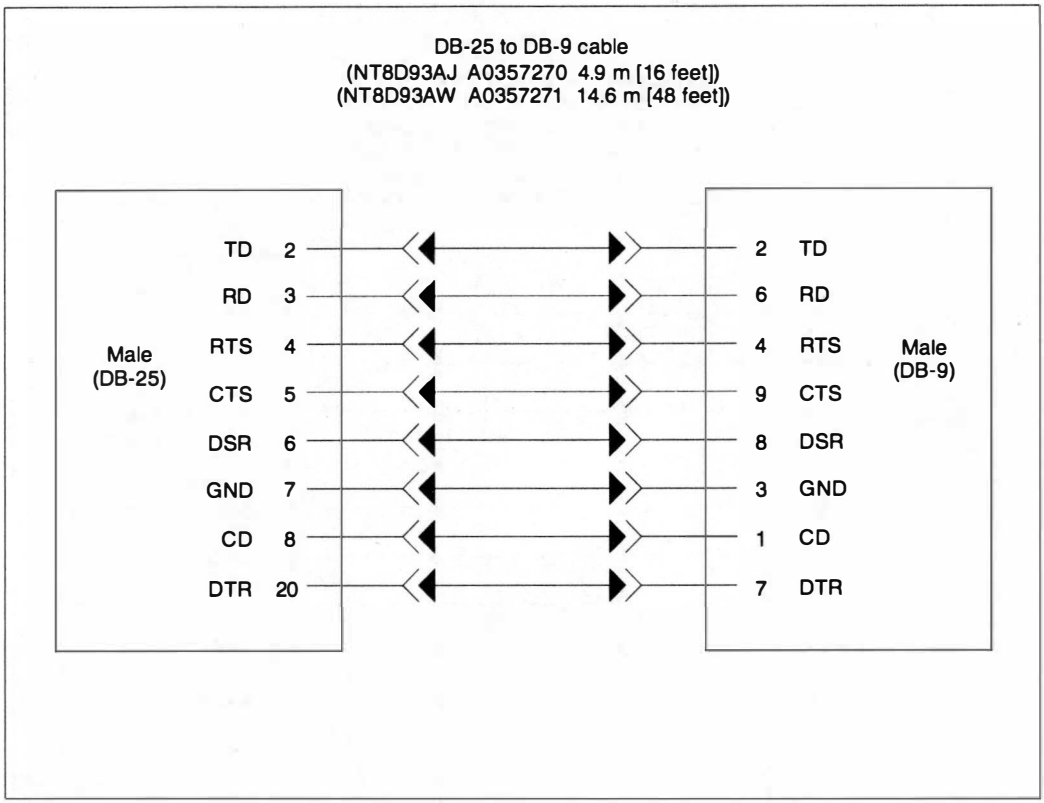


Figure 3-15 shows the cable NT7D99AA when it is used for a dial-up modem or a limited distance modem.

Figure 3-15

Cabling arrangement—modem connection cable NT7D99AA to dial-up modem or limited-distance modem

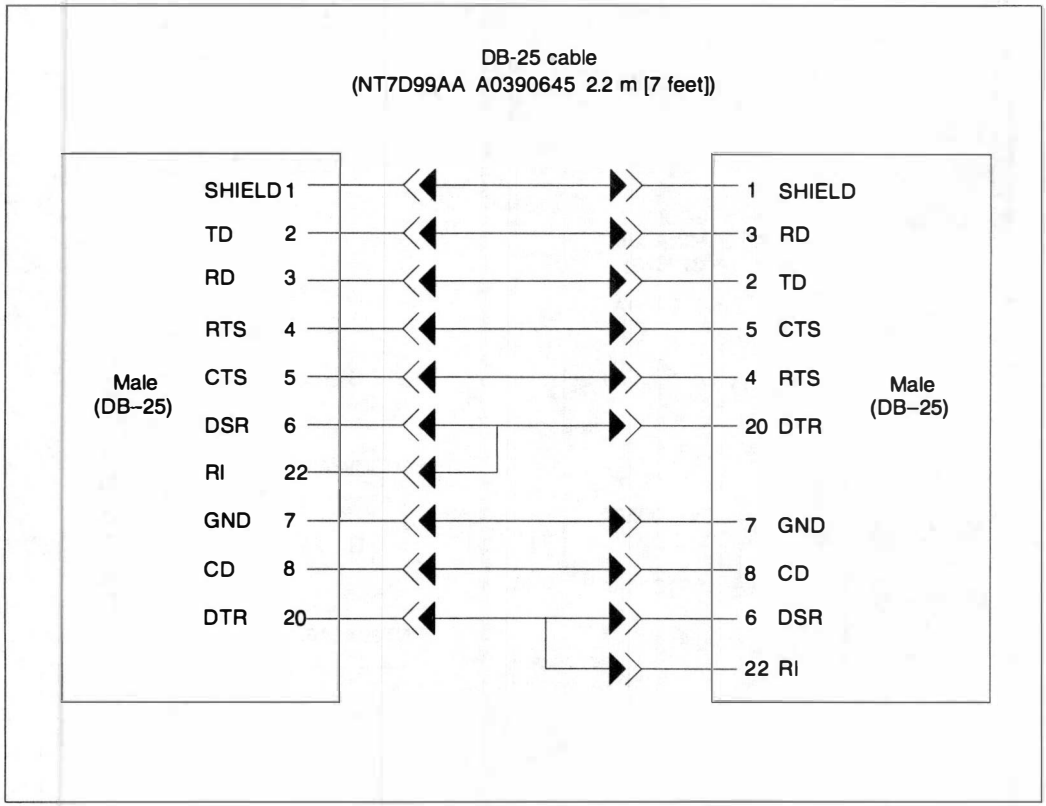
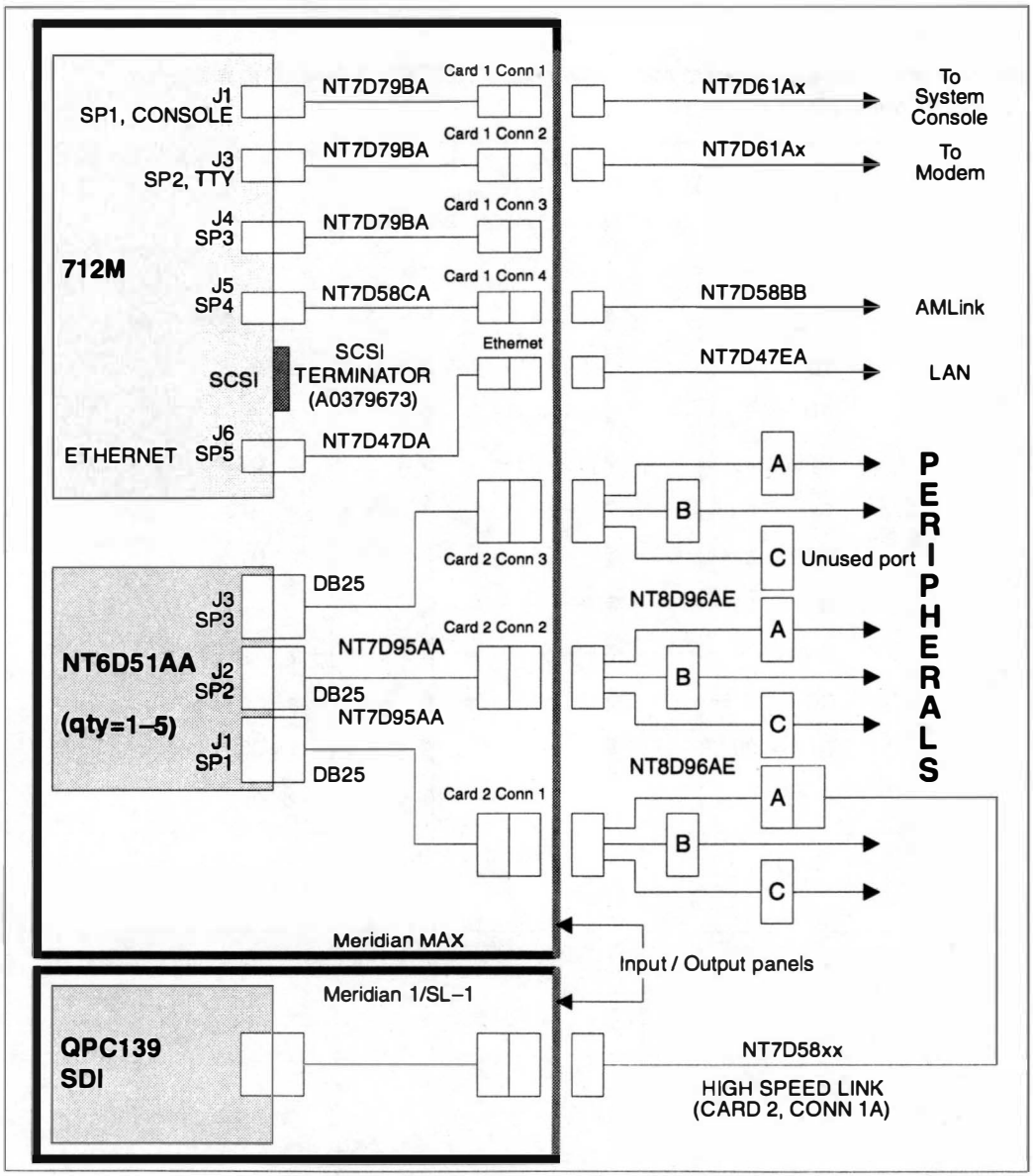


Figure 3-16
External input/output cabling—SNN hardware platform



VME multiport cable

This cable, seen in Figure 3-17, connects the Meridian MAX module with each peripheral in the system. Each cable has a single male DB-25 plug at one end, and three female DB-25 plugs at the other end. The single DB-25 plug connects to a DB-25 socket on the Generic I/O panel. Each of the three DB-25 plugs at the other end are connected to a peripheral device. Refer to the correct port assignment chart when connecting peripherals to cables.

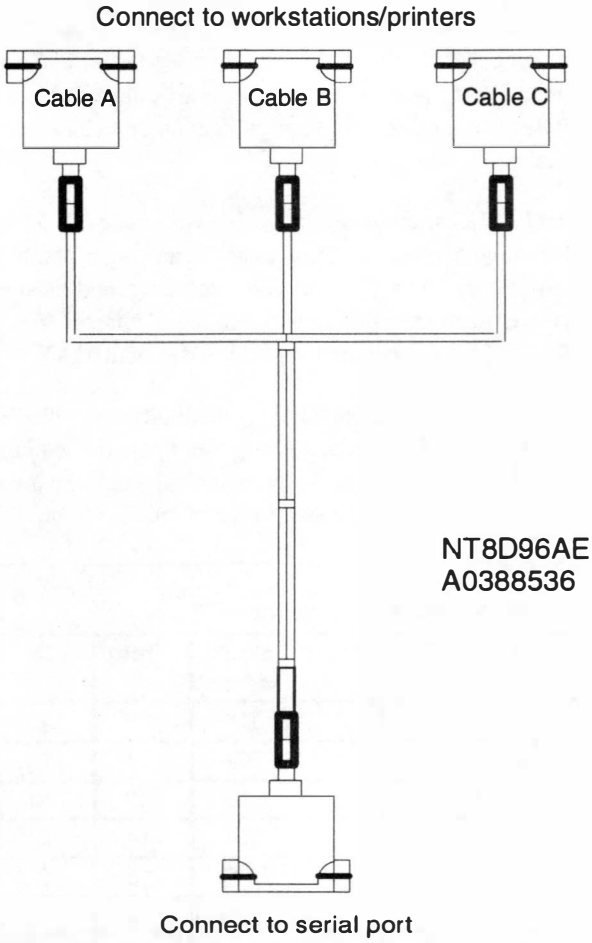
An RS-232 straight-through cable with male DB-25 connectors can extend the range between a Meridian MAX and a peripheral device. The RS-232 must be less than 13 meters (42 feet) long, and must use all 25 pins. For greater distances refer to the "Modems" chapter. The cables from ACD-MAX 3.0 cannot be used by Meridian MAX.

Table 3-7 is the wiring table for the multiport cable. Note that all of the pins listed in the "From" column represent pins in the plug which connect to the Generic I/O panel. Pins listed in the "To" column are pins in the DB-25 sockets for the cables listed in the "Cable" column.

Table 3-7
VME multiport cable wiring

From	To	Cable	Signal name	From	To	Cable	Signal name
2	2	A	TD	25	7	B	GND
3	3	A	RD	24	8	B	CD
4	4	A	RTS	23	20	B	DTR
5	5	A	CTS	14	2	C	TD
6	6	A	DSR	15	3	C	RD
7	7	A	GND	16	4	C	RTS
8	8	A	CD	17	5	C	CTS
20	20	A	DTR	18	6	C	DSR
9	2	B	TD	19	7	C	GND
10	3	B	RD	21	8	C	CD
11	4	B	RTS	22	20	C	DTR
12	5	B	CTS	1	1	A	SHIELD
13	6	B	DSR	1	1	B	SHIELD

Figure 3-17
VME multiport cable



Note: Cable A, Cable B, and Cable C are DB-25 female connectors.

Hardware upgrades and replacements

As your operation and needs grow, so may your need to expand the system.

You can add MVME332XTS/XT eight-channel asynchronous boards to the Meridian MAX system, providing the maximum capacity for the system is not exceeded. With each additional MVME332XTS/XT card, the number of available ports increases by increments of eight.

The SNN hardware platform can support between eight and 40 ports.

It is less likely that you may need to replace a component of the system. If this is required, the upgrade instructions given in this section permit you to make the replacement.

Note: All upgrades and replacements must be performed by qualified technicians.

CAUTION
Risk of equipment damage
Use an anti-static wrist strap before you remove components from an anti-static bag. Failure to do so can result in damage to components.

CAUTION
Risk of data corruption
Shut down the system from the maintenance menu, then secure the system before powering down the module.

If you are adding a module to your system, power down the column. Once the appropriate equipment is powered down, remove the column's faceplate and back plate for the appropriate shelf.
See the "Meridian MAX power-down procedure" chapter for more information.

Adding MVME332XTS/XT cards to an SNN system

Before inserting any additional cards into the Meridian MAX system, ensure that each card's switch settings match those given in Table 3-2. Procedure 3-4 details instructions on adding MVME332XTS/XT cards.

Procedure 3-4
To add MVME332XTS/XT cards to an SNN system

1 Perform a courtesy shut down of the Meridian MAX software. Ensure that the I/O Port Reconfiguration on System Restart is enabled.

Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Shut down the system" section for instructions on shutting down your Meridian MAX system.

Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, "Restart and Power Down Utilities" section for instructions to enable the I/O Reconfiguration on System Restart feature.

2 Secure the Meridian MAX system for power down.

Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system shut down" chapter, "Restart and Power Down Utilities" section, "Secure the System for Power Down" subsection for more information.

3 Remove the front and rear panels of the Application Equipment Module (AEM).

4 Power down the Application Module (AM). The circuit breaker (CB) is located at the left of the AEM.

5 To remove an existing MVME332XTS/XT card, locate the existing card that needs switch settings verified or needs to be replaced. Use a Phillips screwdriver to remove the top and bottom retaining screws which keep the card in place. Press up on the card's top release lever while pressing down on the bottom card release lever. When enough pressure is applied, the card pushes itself out about a quarter of an inch. Carefully pull the card out of the slot and set it aside.

6 To add additional MVME332XTS/XT eight-channel asynchronous boards to Meridian MAX, remove the face plates covering the empty card slots specified in Table 3-8.

Table 3-8
MVME332XTS/XT card slot placement

Number of cards	Number of ports	Slot placement
1	8	2
2	16	2, 3
3	24	2, 3, 4
4	32	2, 3, 4, 5
5	40	2, 3, 4, 5, 6

7 Take each new MVME332XTS/XT card from its packaging and check the switch settings. Refer to the "MVME332XTS and MVME332XTS/XT eight-channel asynchronous board" section of this chapter for this information. Carefully align the card with the black plastic guides found along the top and bottom of the VME card cage. Keeping the new card level, slide the card into the card cage until the new card is flush with the faceplate of the AM. Press firmly on the screw at the center of the faceplate to ensure proper seating.

Note: If you are uncertain as to whether the card is in as far as it can go, simultaneously press up on the top latch and down on the bottom latch. If the card pops forward slightly, then the card was in as far as it could go.

8 Once the card is inserted into the card cage, use a screwdriver to tighten the top and bottom retaining screws to keep the card in place.

Note: Tightening the screws while the card is not in as far as it can go could result in stripping the screws.

9 At the back of the AEM, connect the three multiport cables to the I/O connector panel. Use the appropriate port assignment table to determine which peripherals to connect to the new cables.

10 If there are no further hardware upgrades to be performed, replace the AEM's back and front panels. Power up the AEM. The hardware upgrade is complete.

11 Obtain an updated keycode from your Nortel distributor that includes the additional ports added to your system.

12 From the Meridian MAX maintenance console, perform *Keycode Options Update* to update the number of ports configured for your system.

Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, "View/Modify Meridian MAX Options" section,

"Keycode Options Update" subsection for instructions to update your keycode options.

Replacing the MVME167-34 single board computer card

Use this procedure to replace the MVME167-34 card contained in the SNN hardware platform. Procedure 3-5 details instructions on replacing the MVME167-34 card.

Procedure 3-5
To replace the MVME167-34 SBC card

1 Shut down the Meridian MAX software. Ensure that the I/O Port Reconfiguration on System Restart is enabled.

Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system running" chapter, "Shut down the system" section for instructions on shutting down your Meridian MAX system.

Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system shutdown" chapter, "Restart and Power Down Utilities" section for instructions to enable the System Restart feature.

2 Power down the Application Module (AM). The circuit breaker (CB) is located at the left of the AEM.

3 Locate the existing MVME167-34 Single Board Computer card that needs to be replaced. Use a Phillips screwdriver to remove the top and bottom retaining screws which keep the card in place. Press up on the card's top release lever while pressing down on the bottom card release lever. When enough pressure is applied, the card pushes itself out about a quarter of an inch. Carefully pull the card out of the slot and set it aside.

4 Take the MVME167-34 replacement card from its packaging. Since jumpers are set and tested in the factory, it is not necessary to change the jumper settings on the cards.

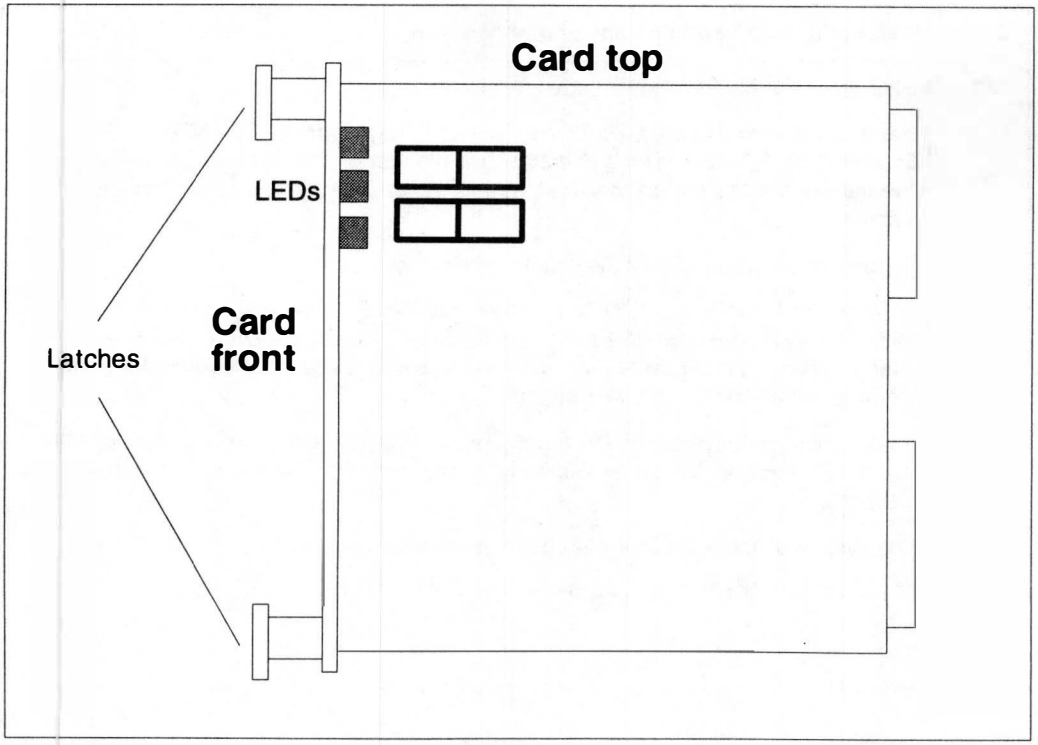
5 Carefully align the card with the black plastic guides found along the top and bottom of the VME card cage. Keeping the card level, slide the card into the card cage until the card is flush with the faceplate of the AM. Press firmly on the screw at the center of the faceplate to ensure proper seating.

Note: If you are uncertain as to whether the card is in as far as it can go, simultaneously press up on the top latch and down on the bottom latch. If the card pops forward slightly, then the card was in as far as it could go.

6 Once the card is inserted into the card cage, use a screwdriver to tighten the top and bottom retaining screws to keep the card in place.

Tightening the screws while the card is not fully inserted could result in stripping the screws.

Figure 3-18
MVME167-34 single board computer card



Configuring the MVME167-34 card

Once the upgrade or replacement is completed, follow Procedure 3-6 to configure the MVME167-34 card.

Procedure 3-6
To configure the MVME167-34 card

Step	Installer's action and system's response
1	Shut down the Meridian MAX software. Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Shut down the system" section for instructions on shutting down your Meridian MAX system.
2	Secure the Meridian MAX 7 system for power down. Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system shut down" chapter, "Restart and Power Down Utilities" section, "Secure the System for Power Down" subsection for more information.

3	Power down your system by flipping the power switch located to the left of the AEM to the OFF position. Wait approximately 20 seconds, then flip the power switch to the ON position.
	
	The system displays the following at the maintenance console:
	
	`Copyright Motorola Inc. 1988 - 1994, All Rights Reserved`
	
	`MVME167 Debugger/Diagnostics Release Version 2.2 - 01/14/94`
	
	`COLD Start`
	
	`Local Memory Found =02000000 (&33554432)`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
	If your card was preset in the factory, the following message appears: `Autoboot in progress... To abort hit <BREAK>`

4	If your MVME167-34 card was preset in the factory, press the **{BREAK}** key.
	`--Break Detected--`
	If your card was not preset in the factory, the following menu appears :
	`1) Continue System Start Up`
	`2) Select Alternate Boot Device`
	`3) Go to System Debugger`
	`4) Initiate Service Call`
	`5) Display System Test Errors`
	`6) Dump Memory to Tape`
	`Enter Menu #:`

5	If your card was not preset in the factory, enter **3** to select the "Go to System Debugger" option.
	The system displays the following prompt:
	`167-Diag>`
	If your card was preset in the factory, the system displays the following prompt instead:
	`167-Bug>`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
6	Enter **env** to configure the system environment. The default values that appear when the system is powered on are in effect at this moment. They may differ if the card was configured at the factory or at the site. Regardless, only the following recommended values should be entered. `Bug or System environment [B/S] = ?`
7	Enter **b** for bug. The system displays the following prompt: `Field Service Menu Enable [Y/N] = ?`
8	Enter **n** to reject the Field Service Menu. The system displays the following prompt: `Remote Start Method Switch [G/M/B/N] = ?`
9	Enter **b**. The system displays the following prompt: `Probe System for Supported I/O controllers [Y/N] = ?`
10	Enter **y** to probe system for supported I/O controllers. The system displays the following prompt: `Negate VMEbus SYSFAIL* Always [Y/N] ?`
11	Enter **n** to reject the Negate VMEbus SYSFAIL* Always prompt. The system displays the following prompt: `Local SCSI Bus Reset on Debugger Startup [Y/N] = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
12	Enter **y** to start up the local SCSI bus reset on the debugger. The system displays the following prompt: `Local SCSI Bus Negotiations Type [A/S/N]  = ?`
13	Enter **a** to set the local SCSI bus negotiations type. The system displays the following prompt: `Ignore CFGA Block on a Hard Disk Boot [Y/N]  = ?`
14	Enter **y** to ignore the CFGA block on a hard disk boot. The system displays the following prompt: `Auto Boot Enable [Y/N]  = ?`
15	Enter **y** to enable the auto boot. The system displays the following prompt: `Auto Boot at power-up only [Y/N] = ?`
16	Enter **n** to disable auto boot at power-up only. The system displays the following prompt: `Auto Boot Controller LUN = ?`
17	To skip the following default prompts, enter a period (.) and go to Step 89. To continue, using the following default prompts, enter **00**. The system displays the following prompt: `Auto Boot Device LUN  = ?`
18	Enter **00**. The system displays the following prompt: `Auto Boot Abort Delay = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
19	Enter **15**. The system displays the following prompt: `Auto Boot Default String [NULL for an empty string] = ?`
20	Press **{RETURN}**. The system displays the following prompt: `ROM Boot Enable [Y/N] = ?`
21	Enter **n** to disable the boot. The system displays the following prompt: `ROM Boot at power-up only [Y/N] = ?`
22	Enter **y** to boot at power-up only. The system displays the following prompt: `ROM Boot Enable search of VMEbus [Y/N] = ?`
23	Enter **n** to disable search of VMEbus. The system displays the following prompt: `ROM Boot Abort Delay = ?`
24	Enter **0**. The system displays the following prompt: `ROM Boot Direct Starting Address = ?`
25	Enter **FF800000**. The system displays the following prompt: `ROM Boot Direct Ending Address = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
26	Enter **FFBFFFFC**. The system displays the following prompt: `Network Auto Boot Enable [Y/N] = ?`
27	Enter **n** to disable the network auto boot. The system displays the following prompt: `Network Auto Boot at power-up only [Y/N] = ?`
28	Enter **y** to enable the network auto boot at power-up only. The system displays the following prompt: `Network Auto Boot Controller LUN = ?`
29	Enter **00**. The system displays the following prompt: `Network Auto Boot Device LUN = ?`
30	Enter **00**. The system displays the following prompt: `Network Auto Boot Abort Delay = ?`
31	Enter **5**. The system displays the following prompt: `Network Auto Boot Configuration Parameters Pointer (NVRAM) = ?`
32	Enter **00000000**. The system displays the following prompt: `Memory Search Starting Address = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
33	Enter **00000000**. The system displays the following prompt: `Memory Search Ending Address = ?`
34	Enter **02000000**. The system displays the following prompt: `Memory Search Increment Size = ?`
35	Enter **00010000**. The system displays the following prompt: `Memory Search Delay Enable [Y/N] = ?`
36	Enter **n** to disable the memory search delay. The system displays the following prompt: `Memory Search Delay Address = ?`
37	Enter **FFFFCE0F**. The system displays the following prompt: `Memory Size Enable [Y/N] = ?`
38	Enter **y** to enable memory sizing for self-test diagnostics. The system displays the following prompt: `Memory Size Starting Address = ?`
39	Enter **00000000**. The system displays the following prompt: `Memory Size Ending Address = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
40	Enter **02000000**. The system displays the following prompt: `Base Address of Local Memory = ?`
41	Enter **00000000**. The system displays the following prompt: `Size of Local Memory Board #0 = ?`
42	Enter **02000000**. The system displays the following prompt: `Size of Local Memory Board #1 = ?`
43	Enter **00000000**. The system displays the following prompt: `Slave Enable #1 [Y/N] = ?`
44	Enter **y** to enable the slave address decoder **#1**. The system displays the following prompt: `Slave Starting Address #1 = ?`
45	Enter **00000000**. The system displays the following prompt: `Slave Ending Address #1 = ?`
46	Enter **01FFFFFF**. The system displays the following prompt: `Slave Address Translation Address #1 = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
47	Enter **00000000**. The system displays the following prompt: `Slave Address Translation Select #1 = ?`
48	Enter **00000000**. The system displays the following prompt: `Slave Control #1 = ?`
49	Enter **03FF**. The system displays the following prompt: `Slave Enable #2 [Y/N] = ?`
50	Enter **y** to enable the slave address decoder #2. The system displays the following prompt: `Slave Starting Address #2 = ?`
51	Enter **FFE00000**. The system displays the following prompt: `Slave Ending Address #2 = ?`
52	Enter **FFE1FFFF**. The system displays the following prompt: `Slave Address Translation Address #2 = ?`
53	Enter **00000000**. The system displays the following prompt: `Slave Address Translation Select #2 = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
54	Enter **00000000**. The system displays the following prompt: `Slave Control #2 = ?`
55	Enter **01EF**. The system displays the following prompt: `Master Enable #1 [Y/N] = ?`
56	Enter **y** to enable the master address decoder #1. The system displays the following prompt: `Master Starting Address #1 = ?`
57	Enter **02000000**. The system displays the following prompt: `Master Ending Address #1 = ?`
58	Enter **EFFFFFFF**. The system displays the following prompt: `Master Control #1 = ?`
59	Enter **0D**. The system displays the following prompt: `Master Enable #2 [Y/N] = ?`
60	Enter **n** to not enable the master address decoder #2. The system displays the following prompt: `Master Starting Address #2 = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
61	Enter **00000000**. The system displays the following prompt: `Master Ending Address #2 = ?`
62	Enter **00000000**. The system displays the following prompt: `Master Control #2 = ?`
63	Enter **00**. The system displays the following prompt: `Master Enable #3 [Y/N] = ?`
64	Enter **n** to not enable the master address decoder **#3**. The system displays the following prompt: `Master Starting Address #3 = ?`
65	Enter **00000000**. The system displays the following prompt: `Master Ending Address #3 = ?`
66	Enter **00000000**. The system displays the following prompt: `Master Control #3 = ?`
67	Enter **00**. The system displays the following prompt: `Master Enable #4 [Y/N] = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
68	Enter **n** to not enable the master address decoder #3. The system displays the following prompt: `Master Starting Address #4 = ?`
69	Enter **00000000**. The system displays the following prompt: `Master Ending Address #4 = ?`
70	Enter **00000000**. The system displays the following prompt: `Master Address Translation Address #4 = ?`
71	Enter **00000000**. The system displays the following prompt: `Master Address Translation Select #4 = ?`
72	Enter **00000000**. The system displays the following prompt: `Master Control #4 = ?`
73	Enter **00**. The system displays the following prompt: `Short I/O (VMEbus A16) Enable [Y/N] = ?`
74	Enter **y** to enable the short I/O address decoder. The system displays the following prompt: `Short I/O (VMEbus A16) Control = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
75	Enter **01**. The system displays the following prompt: `F-Page (VMEbus A24) Enable [Y/N] = ?`
76	Enter **y** to enable the F-page address decoder. The system displays the following prompt: `F-Page (VMEbus A24) Control = ?`
77	Enter **02**. The system displays the following prompt: `ROM Speed Bank A Code = ?`
78	Enter **04**. The system displays the following prompt: `ROM Speed Bank B Code = ?`
79	Enter **04**. The system displays the following prompt: `Static RAM Speed Code = ?`
80	Enter **00**. The system displays the following prompt: `PCC2 Vector Base = ?`
81	Enter **05**. The system displays the following prompt: `VMEC2 Vector Base #1 = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
82	Enter **06**. The system displays the following prompt: `VMEC2 Vector Base #2 = ?`
83	Enter **07**. The system displays the following prompt: `VMEC2 GCSR Group Base Address = ?`
84	Enter **CC**. The system displays the following prompt: `VMEC2 GCSR Board Base Address = ?`
85	Enter **00**. The system displays the following prompt: `VMEbus Global Time Out Code = ?`
86	Enter **01**. The system displays the following prompt: `Local Bus Time Out Code = ?`
87	Enter **00**. The system displays the following prompt: `VMEbus Access Time Out Code = ?`
88	Enter **02**. The system displays the following prompt:
89	`Update Non-Volatile RAM (Y/N) = ?`

—continued—

Procedure 3-6 (continued)
To configure the MVME167-34 card

Step	Installer's action and system's response
90	Enter **y**. The system displays the following prompt: `Reset local System (CPU) (Y/N) = ?`
91	Power down your system by flipping the power switch located to the left of the AEM to the OFF position. At this point, you may replace the MVME167 card or power on the system and install your Meridian MAX 7 software.

—end—

Chapter 4: Hardware installation: Intelligent Peripheral Equipment (IPE) module

A word about warranties

It is extremely important that you read and understand the warranties issued for your Meridian MAX peripheral devices. Each warranty details what you can and cannot do with the warranted item.

While the utmost care has been taken to ensure that the procedures described in this NTP do not void any of the warranties, it is still possible for an instruction to be in conflict with a warranty when a warranty changes after the publication of this NTP. If you find such a condition, inform your dealer or Nortel service representative of the problem.

ATTENTION

Under no circumstances should you void your warranty for the sake of following any instruction given in this (or any other) document. Be sure to register your warranties with the appropriate companies (usually the manufacturers) where required.

Overview

Meridian MAX - IPE is an ACD-MIS product that addresses the needs of the small call center market. It is designed to function within the Meridian 1 environment. There are two versions of the Meridian MAX - IPE; one for the Option 11 and one for the Option 21-81.

The Meridian MAX - IPE module is composed of the following parts:

- SMM167 CPU board
- CPU adaptor board
- Drive adaptor board
- 1.2-Gbyte, 240-Mbyte, or 180-Mbyte hard disk drive
- 600-Mbyte or 155-Mbyte cassette tape drive
- Module frame
- Faceplate

There are four light-emitting diodes (LEDs) and two buttons on the Meridian MAX - IPE module faceplate shown in Figure 4-1.

The LEDs show the following conditions:

- ***PWR*** This green LED lights continuously, indicating power is running to the Meridian MAX - IPE system.
- ***RUN*** This yellow LED lights almost continuously but flickers when the system processor has stopped.
- ***SCSI (Small Computer System Interface)*** The intensity of this yellow LED varies depending on system use. Heavy communication between devices is indicated by a solid bright light, while a dimmer flickering light indicates less data movement.
- ***FAIL*** This red LED lights when a hardware failure has occurred on the CPU card. The LED also lights for a 7 to 10 minute duration when the SMM167 card on-board diagnostics is enabled during bootup.

CAUTION
Risk of system interruption
DO NOT PRESS the abort or reset button while applications are running. Shut down the system software before pressing the abort or reset buttons. This information is provided in the "Meridian MAX power-down procedure" chapter.

The buttons produce the following conditions and should not be pressed unless under the direction of Nortel support personnel:

- ***ABORT*** This button halts the Meridian MAX - IPE system.
- ***RESET*** This button re-initializes the Meridian MAX - IPE system. The system performs a self test and then reboots.

Table 4-1 lists the equipment and materials required for a Meridian MAX - IPE installation. Figure 4-1 shows an illustration of the front of the Meridian MAX - IPE module containing a 600-Mbyte cassette tape drive. Figure 4-2 shows an illustration of the front of the Meridian MAX - IPE module containing a 155-Mbyte cassette tape drive.

> ***Note:*** A Meridian MAX - IPE containing a 600-Mbyte cassette tape drive uses a tape ejector button. A Meridian MAX - IPE containing a 155-Mbyte cassette tape drive uses a tape latch.

Figure 4-3 shows a simplified overview of the hardware layout for the Meridian MAX - IPE Option 11 module installation. For more information on the configurations available, refer to the "Capacities" section in the "Site preparation" chapter.

Figure 4-4 shows a simplified overview of the hardware layout for the Meridian MAX - IPE Option 21-81 module installation. These figures are intended to show you how the equipment is interconnected. The actual layout of your site may be quite different (see the "Site layout" section of the "Site preparation" chapter).

CAUTION
Risk of equipment damage
Use an anti-static wrist strap before you remove components from an anti-static bag. Failure to do so results in damage to components.

Table 4-1
Meridian MAX - IPE installation equipment and material list

Equipment	Contents
Meridian MAX - IPE Option 11	Meridian MAX - IPE Module (A0617009) Containing: SMM167 CPU card 1.2-Gbyte Seagate ST31230 hard disk drive 600-Mbyte Teac MT-2ST/F50B-000 cassette drive Meridian MAX - IPE Module (A0617009) Containing: SMM167 CPU card 240-Mbyte Fujitsu M2614 M2637S hard disk drive 600-Mbyte Teac MT-2ST/F50B-000 cassette drive Meridian MAX - IPE Module (NT1R02AA) Containing: SMM167 CPU card 180-Mbyte Seagate ST1201N hard disk drive 155-Mbyte Teac MT-2ST/N50 cassette
Meridian MAX - IPE Option 21-81	Meridian MAX - IPE Module (A0617010) Containing: SMM167 CPU card 1.2-Gbyte Seagate ST31230 hard disk drive 600-Mbyte Teac MT-2ST/F50B-000 cassette drive Meridian MAX - IPE Module (A0617010) Containing: SMM167 CPU card 240-Mbyte Fujitsu M2614 M2637S hard disk drive 600-Mbyte Teac MT-2ST/F50B-000 cassette drive Meridian MAX - IPE Module (NT1R02BA) Containing: SMM167 CPU card 180-Mbyte Seagate ST1201N hard disk drive 155-Mbyte Teac MT-2ST/N50 cassette drive

—continued—

Table 4-1 (continued)
Meridian MAX - IPE installation equipment and material list

Equipment	Contents
Cables	Meridian MAX - IPE shielded four-port cable with Ethernet (NT1R03AA) Meridian MAX - IPE shielded four-port cable (NT1R03BA) Meridian MAX - IPE extension cable for Option 11 (NT1R03CA) (For other extension cables, refer to the "Cables" section of this chapter.)
Workstations (any combination)	VDT-type (DEC VT520, DEC VT420, DEC VT220 or HP700/32 or terminals which are 100% compatible) IBM PC AT, PS/2, or 100% compatible
Reports printer (any combination)	HP RuggedWriter printer HP LaserJet series II printer HP LaserJet series III printer HP LaserJet series 4 printer HP LaserJet series 4 Plus printer HP PaintJet 3630 printer HP DeskJet printer HP DeskJet 500 printer HP DeskJet 560C printer (with serial-parallel converter) HP DeskJet 660C printer (with serial-parallel converter) DEC LA195 (Epson-mode only) printer
Modems	NetComm SmartModem M7F Gandalf LDS 120E Develcon DS511A Ven-Tel 2400 Plus II Ven-Tel 9600 Plus Racal VI2422PA UDS EC224A/D UDS 2440

—continued—

Table 4-1 (continued)
Meridian MAX - IPE installation equipment and material list

Equipment	Contents
Software	Meridian MAX Application Software (1 cassette) Motorola UNIX Operating System SYSV68 (1 cassette) Meridian Terminal Emulator (MTE) 5.32 or lower for DOS if using personal computers as workstations (optional) Meridian Terminal Emulator (MTE) 6 for Windows if using personal computers as workstations (optional) Meridian Terminal Emulator (MTE) 7 for Windows if using personal computers as workstations (optional) Reflection 4+ version 3.0 for DOS (or higher) if using personal computers as workstations (customer provided)
Documentation	P0815598 *Meridian MAX 7 Supervisor's User Guide* Set of Nortel Publications A0639866 553-4001-111 *Meridian MAX 7 Installation Guide* (P0815587) 553-4001-811 *Meridian MAX 7 Maintenance and Diagnostics Guide* (P0815589) 553-4001-911 *Meridian MAX 7 Overview* (P0815591) 553-3201-200 *Application Equipment Module Installation Guide*
Miscellaneous equipment	Serial-parallel converter for printers (A0621070)
Supplies	Minimum of three blank data cassette tapes 150-Mbyte cassette tape (A0352271)
—end—	

Figure 4-1
Meridian MAX - IPE module containing a 600-Mbyte tape drive—front view

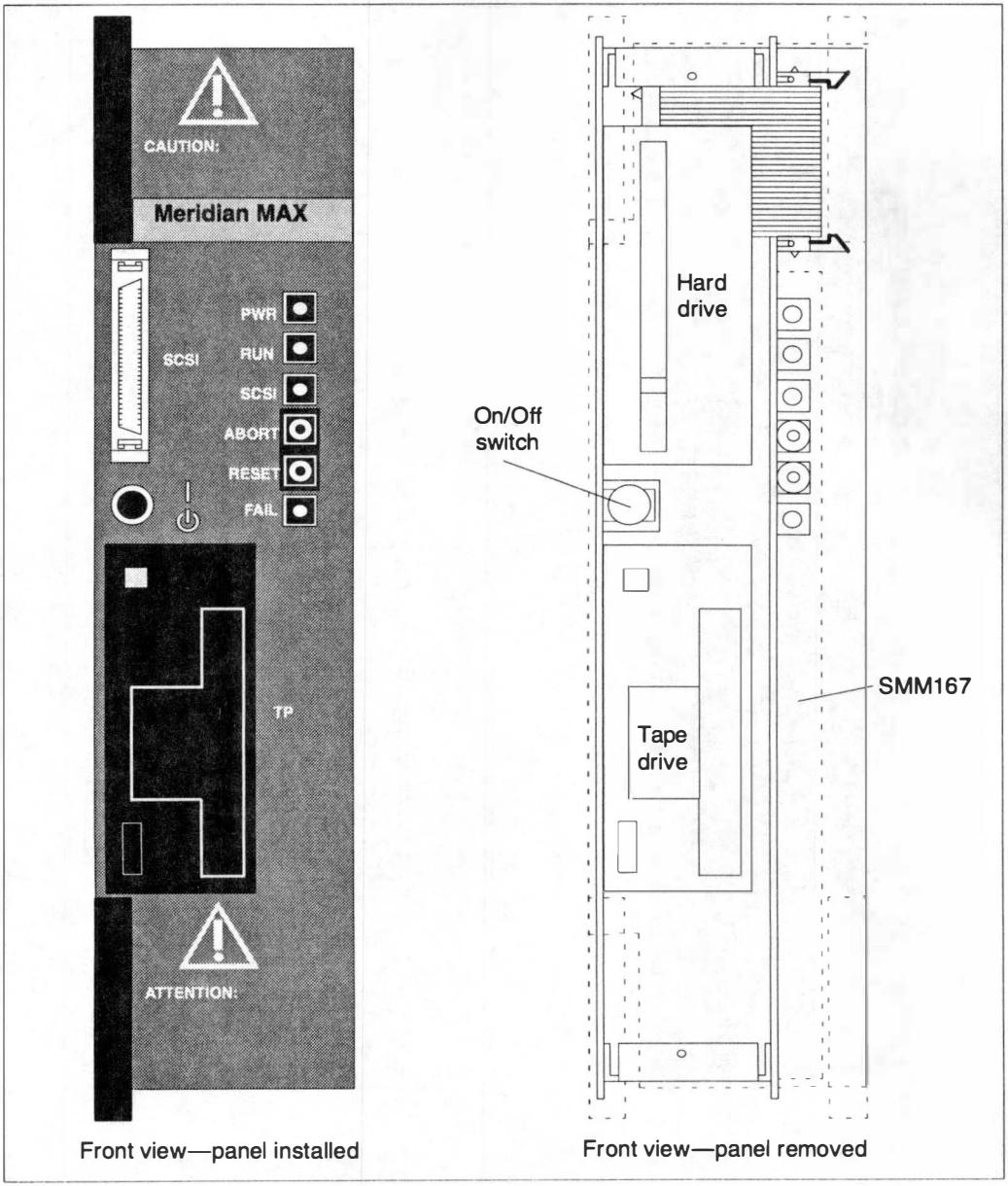


Figure 4-2
Meridian MAX - IPE module containing a 155-Mbyte cassette tape drive—front view

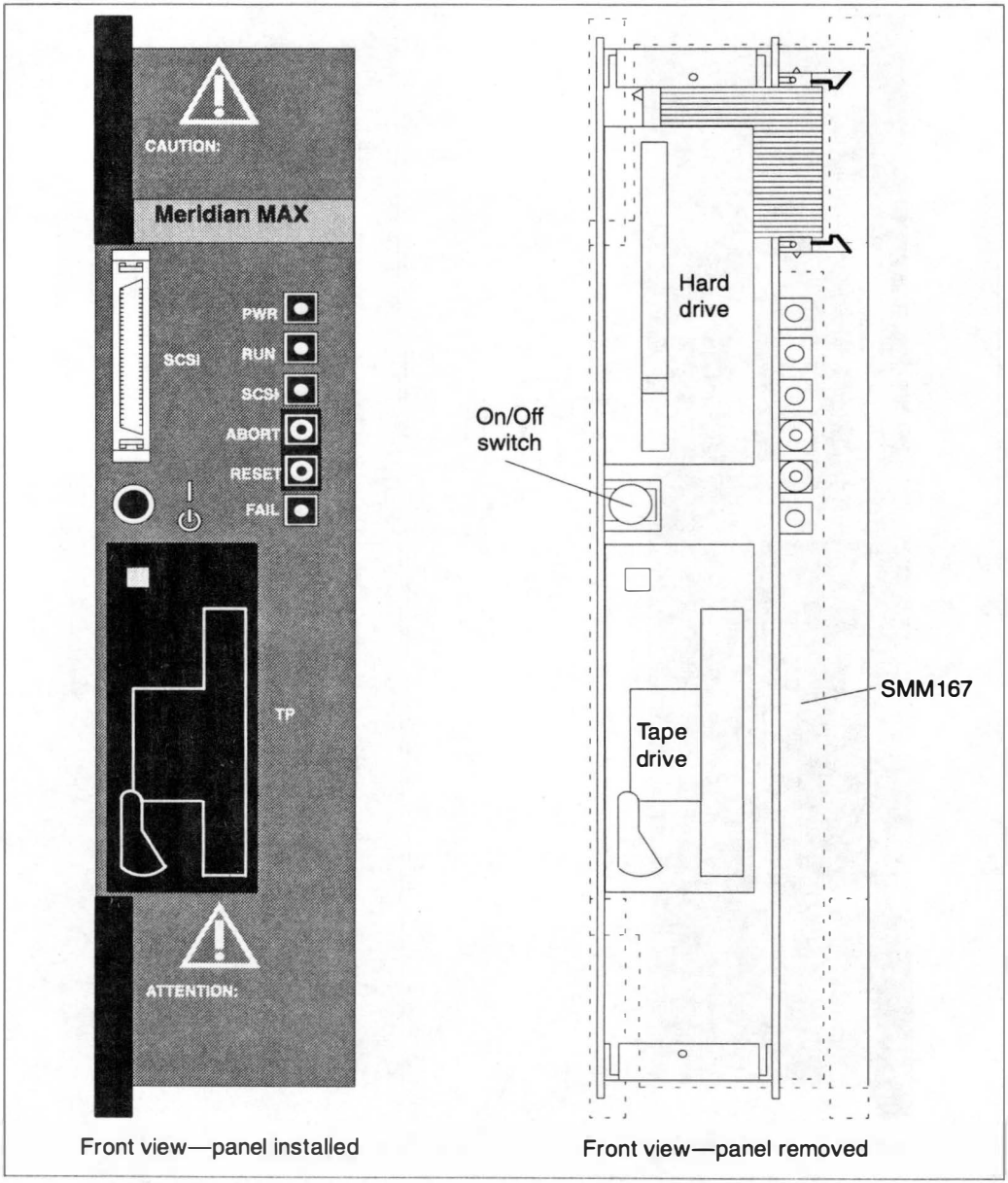
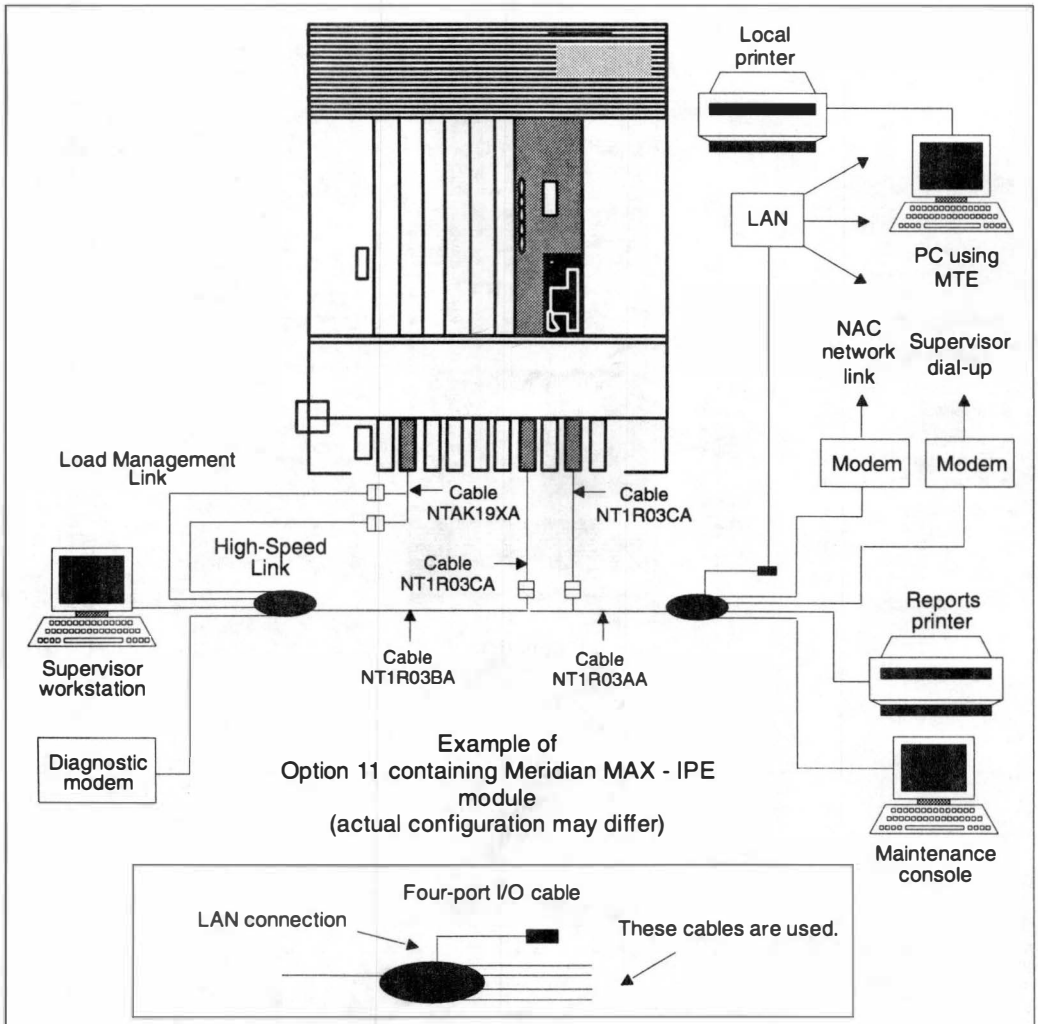


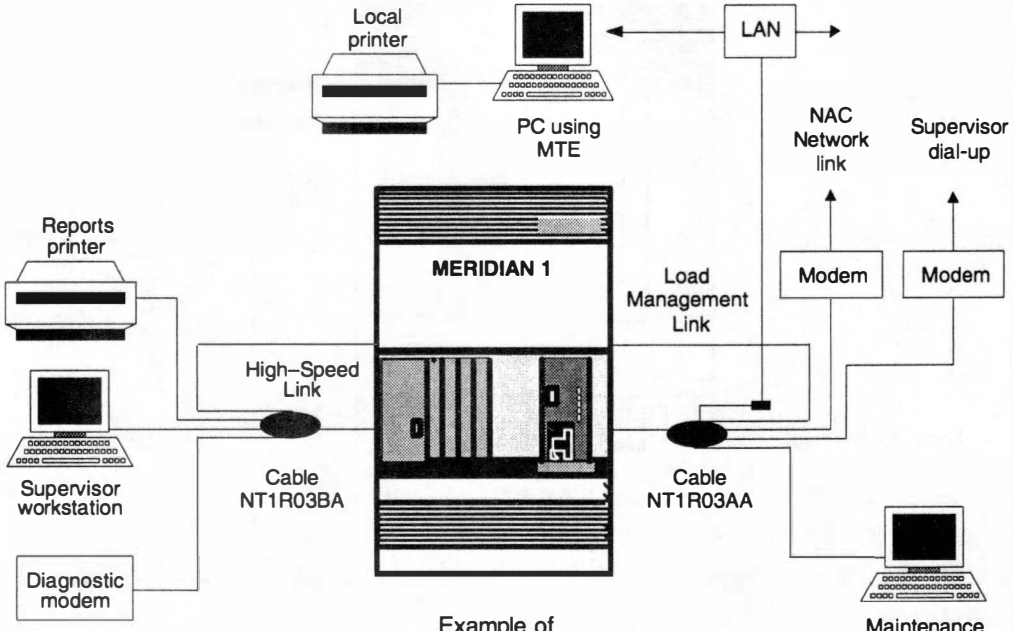
Figure 4-3
Meridian MAX - IPE installation overview—Option 11



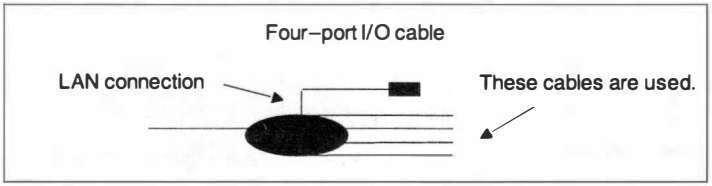
For more information on the configurations available, refer to the "Capacities" section in the "Site preparation" chapter.

Note: The system console is connected to Port 1, remote diagnostics is connected to Port 2, and the High-Speed Link is connected to Port 8.

Figure 4-4
Meridian MAX - IPE installation overview—Option 21-81



Example of
Option 21-81 containing Meridian MAX - IPE module.
(actual configuration may differ.)



For more information on the configurations available, refer to the "Capacities" section in the "Site preparation" chapter.

Note: The system console is connected to Port 1, remote diagnostics is connected to Port 2, and the High-Speed Link is connected to Port 8.

Meridian MAX - IPE module—Option 11

If you have obtained a new Meridian MAX - IPE system, the module is already assembled. It is necessary for you to insert the module into the Option 11.

When you remove the front panel of the main cabinet of the Option 11 or the front panel of an expansion cabinet, there are a number of slots, numbered 2 to 9 in the main cabinet and 11 to 20 in the expansion cabinet, where the Meridian MAX - IPE module can be inserted. Slots 10-12 in the main cabinet are reserved for Meridian Mail and cannot be used for Meridian MAX - IPE. The Meridian MAX - IPE module occupies any three consecutive slots. Its slot placement is determined by the slot positions of existing applications already installed in either of the Option 11 cabinets. The slot placements of future applications for your system are also a consideration when deciding the slot placement for your Meridian MAX - IPE.

When the slot placement has been determined, slowly slide the module along the slots into the cabinet, making sure the latches at the top and bottom of the module are in an unlatched position, until it is firmly in place. Make sure the latches at the top and bottom of the module are secured.

Input/output cables

Main cabinet

Two shielded four-port cables are used to connect the Meridian MAX - IPE to its supervisor workstation, printers and other peripheral devices. Cable A (NT1R03AA) has a 50-pin key telephone connector on one end and four DB-25 female connectors on the other as well as an additional Ethernet port, shown in Figure 4-14. Cable B (NT1R03BA) is identical to Cable A except that it has no additional Ethernet port, shown in Figure 4-14. Each of the eight female DB-25 connectors can connect to a peripheral device. Cable A services Ports 1, 3, 5, and 7. Cable B services Ports 2, 4, 6, and 8. Refer to the Communication Port Assignment Sheet (Table 4-4) when connecting peripherals to cables.

Underneath the main cabinet of the Option 11 is a connector panel with 10 numbered connector ports. Each connector port connects to the corresponding numbered slot directly above, inside the main cabinet. The key telephone connectors of each four-port cable are connected here. These connectors are held in place by a removable connector panel bar.

The connector panel assignment for Cable A (NT1R03AA) and Cable B (NT1R03BA) in the Option 11 is shown in Table 4-2. The connector panel assignment depends on the desired slot placement of the Meridian MAX - IPE module.

Before connecting the four-port cables, connect one extension cable (NT1R03CA) to each connector, then connect each four-port cable. Make sure the connectors are secure. This allows the front panel on the Option 11 to be closed without interference from too many dangling cables. For example, if your Meridian MAX - IPE module occupies slots 7, 8 and 9, connect one end of an NT1R03CA extension cable to connector J9 while connecting Cable A to the other end of the extension cable. Connect a second NT1R03CA extension cable to connector J7, attaching Cable B to the other end of the second extension cable. Connector J8 is not used.

Replace the connector panel bar making sure the padded side is placed against the back of the connectors.

Table 4-2
Option 11 peripheral cable connector assignment sheet (main cabinet)

Module slot combinations	Cable	
	A	B
2-4	J4	J2
3-5	J5	J3
4-6	J6	J4
5-7	J7	J5
6-8	J8	J6
7-9	J9	J7

Expansion cabinet

If you are installing your Meridian MAX - IPE module into an Option 11 expansion cabinet, the process is very similar to an installation in the main cabinet.

Two shielded four-port cables are used to connect the Meridian MAX - IPE to its supervisor workstation, printers and other peripheral devices. Cable A (NT1R03AA) has a 50-pin key telephone connector on one end and four DB-25 female connectors on the other as well as an additional Ethernet port, shown in Figure 4-14. Cable B (NT1R03BA) is identical to Cable A except that it has no additional Ethernet port, shown in Figure 4-14. Each of the eight DB-25 connectors can connect to a peripheral device. Cable A services Ports 1, 3, 5, and 7. Cable B services Ports 2, 4, 6, and 8. Refer to the Communication Port Assignment Sheet (Table 4-4) when connecting peripherals to cables.

Underneath the expansion cabinet of the Option 11 is a connector panel with 10 numbered connector ports. Each connector port connects to the corresponding numbered slot directly above, inside the expansion cabinet. The key telephone connectors of each four-port cable are connected here. These connectors are held in place by a removable connector panel bar.

The connector panel assignment for Cable A (NT1R03AA) and Cable B (NT1R03BA) in the Option 11 is shown in Table 4-3. The connector panel assignment depends on the desired slot placement of the Meridian MAX - IPE module.

Before connecting the four-port cables, connect one extension cable (NT1R03CA) to each connector, then connect each four-port cable. Make sure the connectors are secure. This allows the front panel on the Option 11 to be closed without interference from too many dangling cables. For example, if your Meridian MAX - IPE module occupied slots 14, 15 and 16, connect one end of an NT1R03CA extension cable to connector J16 while connecting Cable A to the other end of the extension cable. Connect a second NT1R03CA extension cable to connector J14, attaching Cable B to the other end of the second extension cable. Connector J15 is not used.

Replace the connector panel bar making sure the padded side is placed against the back of the connectors.

Note: Because the Option 11 expansion cabinet can be placed above, below, beside or even in another room from the main cabinet, Port 8 on Cable B may not reach the port on the NTAK19BA cable configured for the High-Speed Link. If that is the case, Port 8 can be extended using NT1R03Dx or NT1R03Ex extension cables, where x indicates the length of the cable.

Table 4-3
Option 11 peripheral cable connector assignment sheet (expansion cabinet)

Module slot combinations	Cable	
	A	B
11-13	J13	J11
12-14	J14	J12
13-15	J15	J13
14-16	J16	J14
15-17	J17	J15
16-18	J18	J16
17-19	J19	J17
18-20	J20	J18

Input/output port assignments

There are eight ports available for various peripheral devices but three of them are configured for a specific peripheral. Port 1 is configured for the Console Port; Port 2 is configured for the Diagnostic Modem; and Port 8 is configured for the High-Speed Link. The remaining peripherals can be configured on any of Ports 3 to 7.

> ***Note:*** The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

Table 4-4 provides you with a chart which lists all of the assignable ports and shows the type of device which can be connected to each port. As you decide upon the device to connect to each port, enter the device name in the space provided. If you are assigning a Supervisor Workstation or Network Link, you must specify the type of connection: Direct, Dial-up at 2400 baud, or Dial-up at 9600 baud. This information will be requested during the software installation.

Please note the following abbreviations:

- SW (Supervisor Workstation)
- PRT (Printer)
- LML (Load Management Link)
- NL (Network Link (NetLink))

Please note the following abbreviations for connection type:

- DC (Direct Connection)
- 24 (Dial-up connection at 2400 baud)
- 96 (Dial-up connection at 9600 baud)

> ***Note:*** The "Connection type" column in the following table lists all of the possible connections. Some connection types cannot be applied to some devices available. For example, the only connection type possible for a printer is direct connection. Ensure that you do not select an inappropriate connection type.

Table 4-4
Option 11 communication port assignment sheet

Port	Cable	Devices available	Device selected	Connection type
1	A	CONSOLE PORT	CONSOLE PORT	N/A
2	B	DIAGNOSTIC MODEM	DIAGNOSTIC MODEM	N/A
3	A	SW / PRT / LML / NL		DC / 24 / 96
4	B	SW / PRT / LML / NL		DC / 24 / 96
5	A	SW / PRT / LML / NL		DC / 24 / 96
6	B	SW / PRT / LML / NL		DC / 24 / 96
7	A	SW / PRT / LML / NL		DC / 24 / 96
8	B	HIGH-SPEED LINK	HIGH-SPEED LINK	N/A

Meridian MAX - IPE module—Option 21-81

If you have obtained a new Meridian MAX - IPE system for the Option 21-81, the module is already assembled. It is necessary for you to insert the module into the Peripheral Equipment (PE) slots of either the Common Equipment/Peripheral Equipment (CE/PE) cabinet or the Intelligent Peripheral Equipment (IPE) cabinet.

> ***Note:*** If your CE/PE or IPE cabinet is not properly configured for 24-port cards, rerouting of the backplane cabling is necessary. See the "Cable rerouting for Option 21-81 CE/PE and IPE modules" section for more information.

When you remove the front panel of the CE/PE or IPE cabinet of the Option 21-81 there are a number of slots, numbered 0 to 9 in the CE/PE cabinet and 0 to 15 in the IPE cabinet, where the Meridian MAX - IPE module can be inserted. The Meridian MAX - IPE module occupies any four consecutive slots. Its slot placement is determined by the slot positions of existing applications already installed in either the CE/PE or IPE cabinets. The slot placements of future applications for your system are also a consideration when deciding the slot placement for your Meridian MAX - IPE.

When the slot placement has been determined and the internal backplane and I/O panel cables have been rerouted, slowly slide the module along the slots into the cabinet, making sure the latches at the top and bottom of the module are in an unlatched position, until it is firmly in place. Make sure the latches at the top and bottom of the module are secured.

Input/output cables

Common/Peripheral Equipment (CE/PE) cabinet

Two shielded four-port cables are used to connect the Meridian MAX - IPE to its supervisor workstation, printers and other peripheral devices. Cable A (NT1R03AA) has a 50-pin key telephone connector on one end and four DB-25 female connectors on the other, as well as one unused port reserved for future use, shown in Figure 4-14. Cable B (NT1R03BA) is identical to Cable A except that it has only four DB-25 female connectors, shown in Figure 4-15. Each of the eight DB-25 connectors can connect to a peripheral device. Cable A services Ports 1, 3, 5, and 7. Cable B services Ports 2, 4, 6, and 8. Refer to the Communication Port Assignment Sheet (Table 4-11) when connecting peripherals to cables.

Inside the back of the CE/PE cabinet, to the left of the backplane cover, is the NT8D11 CE/PE cabinet I/O panel, as shown in Figure 4-9. The key telephone connectors of each four-port cable are connected to this panel. The connectors on the panel are labelled with a letter between A and L. Each lettered connector is connected to a corresponding slot at the front of the Option 21-81.

Connect the four-port cables to the CE/PE cabinet connectors. Make sure the connectors are secure. Table 4-5 shows what connectors on the I/O panel Cable A (NT1R03AA) and Cable B (NT1R03BA) connect to, depending on the slot placement of the Meridian MAX - IPE in the Option 21-81. For example, if your Meridian MAX - IPE module occupied slots 4, 5, 6, and 7, Cable A connects to connector H and Cable B connects to connector E.

Table 4-5
CE/PE cabinet peripheral cable connector assignment sheet

Module slot combinations	Cable	
	A	B
0-3	D	A
1-4	E	B
2-5	F	C
3-6	G	D
4-7	H	E
5-8	K	F
6-9	L	G

Intelligent Peripheral Equipment (IPE) cabinet

Two shielded four-port cables are used to connect the Meridian MAX - IPE to its supervisor workstation, printers and other peripheral devices. Cable A (NT1R03AA) has a 50-pin key telephone connector on one end and four DB-25 female connectors on the other, as well as one unused port reserved for future use, shown in Figure 4-14. Cable B (NT1R03BA) is identical to Cable A except that it has only four DB-25 female connectors, shown in Figure 4-14. Each of the eight DB-25 connectors can connect to a peripheral device. Cable A services Ports 1, 3, 5, and 7. Cable B services Ports 2, 4, 6, and 8. Refer to the Communication Port Assignment Sheet (see Table 4-11) when connecting peripherals to cables.

Inside the back of the IPE cabinet, on the left and right of the backplane cover, are the NT8D37 IPE cabinet I/O panels, as shown in Figure 4-10. The key telephone connectors of each four-port cable are connected to these panels. The connectors on the panel are labelled with a letter between A and U. Each lettered connector is connected to a corresponding slot at the front of the Option 21-81.

Connect the four-port cables to the IPE cabinet connectors. Make sure the connectors are secure. Table 4-6 shows what connectors on the I/O panel Cable A (NT1R03AA) and Cable B (NT1R03BA) connect to, depending on the slot placement of the Meridian MAX - IPE in the Option 21-81. For example, if your Meridian MAX - IPE module occupies slots 4, 5, 6, and 7, Cable A connects to connector H and Cable B connects to connector E.

Table 4-6
IPE cabinet peripheral cable connector assignment sheet

Module Slot Combinations	Cable	
	A	B
0-3	D	A
1-4	E	B
2-5	F	C
3-6	G	D
4-7	H	E
8-11	N	K
9-12	R	L
10-13	S	M
11-14	T	N
12-15	U	R

Cable rerouting for Option 21-81 CE/PE and IPE modules

In a standard configuration, the Meridian MAX - IPE module can be placed in any peripheral slot on the Option 21-81 CE/PE or IPE modules. This is possible when the slots are fully cabled to accommodate 24 tip and ring pairs per slot. If your system is running a software release prior to Meridian 1 X11 Release 18, you need to reroute cables inside the CE/PE or IPE module.

In the standard backplane configuration of the NT8D11 CE/PE and NT8D37 IPE modules, using a software release prior to Meridian 1 X11 Release 18, some slots on the backplane are fully cabled to accommodate 24 tip and ring pairs (three cable connectors). Most of the backplane slots, however, accommodate 16 pairs (two cable connectors). By adding and reconfiguring cable ends in the backplane slots, 24 pairs can be connected to each backplane slot. Once the rerouting process is done, the CE/PE or IPE cabinet can support the Meridian MAX - IPE module.

> ***Note:*** When backplane slots are reconfigured for expanded cabling, the labelling for NT8D11 CE/PE and NT8D37 IPE modules must be changed at the MDF to reflect the change in the backplane slots.

Cables are designated by the letter of the I/O panel (A, B, C and so forth) where the 50-pin cable connector is attached. Each cable has three 20-pin connectors (16 positions are used) designated 1, 2, or 3, which attach to the backplane. Using the designations described, the backplane ends of the first cable are referred to as A-1, A-2, and A-3.

The location of the cable connectors on the backplane are designated by the slot number (L0 through L9 for NT8D11, L0 through L15 for NT8D37) and the shroud row (1, 2, 3). Using these designations, the slot positions in the first slot are referred to as L0-1, L0-2, and L0-3.

Cable rerouting for NT8D11 CE/PE module

In the standard seven cable configuration for the backplane in the NT8D11 CE/PE module, cables D, G, and L are not used. Those cables are used in the 10-cable fully expanded configuration.

Cabling for the first four PE slots can be expanded using one NT8D81AA cable/filter assembly. Cabling for all of the PE slots can be expanded using three NT8D81AA cable/filter assemblies.

Note: The first PE slot is already fully cabled for 24 pairs, so no change is required for that slot.

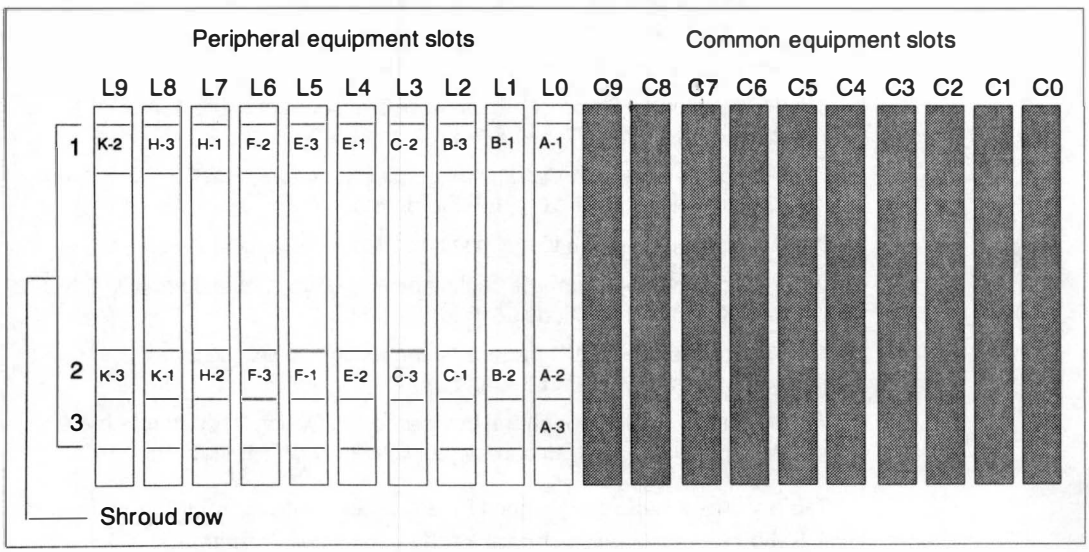
Table 4-7 lists cable connections *before* cable expansion. Figure 4-5 shows the backplane slots *before* cable expansion.

Table 4-7
NT8D11 cable connections (standard configuration)

Backplane slots-shroud rows	I/O panel/cable designation
L0-1 L0-2 L0-3	A
L1-1 L1-2 L2-1	B
L2-2 L3-1 L3-2	C
L4-1 L4-2 L5-1	E
L5-2 L6-1 L6-2	F
L7-1 L7-2 L8-1	H
L8-2 L9-1 L9-2	K

Note: Cables D, G, and L are not used in this configuration

Figure 4-5
NT8D11 backplane cable designations (standard configuration)



NT8D11 backplane cable expansion—first four PE slots only

1 Leave cable A as is in slot position L0.

2 Move cable end B-3 to slot position L1-3.

3 Remove cable C from the backplane and connect cable ends C-1, C-2 and C-3 to slot positions L2-1, L2-2 and L2-3.

4 Add cable D to the I/O panel by connecting cable ends D-1, D-2 and D-3 to slot positions L2-1, L2-2 and L2-3.

Cables E, F, H and K remain the same. Cable positions G and L are open for further expansion.

5 If you are cabling peripheral devices to the Option 21-81 through an MDF, label the MDF to show one cable for the first and fourth PE slots (L0 and L3).

NT8D11 backplane cable expansion—all PE slots

1 Leave cable A as is in slot position L0.

2 Move cable end B-3 to slot position L1-3.

3 Remove cable C from the backplane and connect cable ends C-1, C-2, and C-3 to slot positions L2-1, L2-2 and L2-3.

4 Add cable D to the I/O panel by connecting cable ends D-1, D-2 and D-3 to slot positions L3-1, L3-2 and L3-3.

5 Move cable end E-3 to slot position L4-3.

6 Remove cable F from the backplane and connect cable ends F-1, F-2 and F-3 to slot positions L5-1, L5-2 and L5-3.

7 Add cable G to the I/O panel by connecting cable ends G-1, G-2 and G-3 to slot positions L6-1, L6-2 and L6-3.

8 Move cable end H-3 to slot position L7-3.

9 Remove cable K from the backplane and connect cable ends K-1, K-2 and K-3 to slot positions L8-1, L8-2 and L8-3.

10 Add cable L to the I/O panel by connecting cable ends L-1, L-2 and L-3 to slot positions L9-1, L9-2 and L9-3.

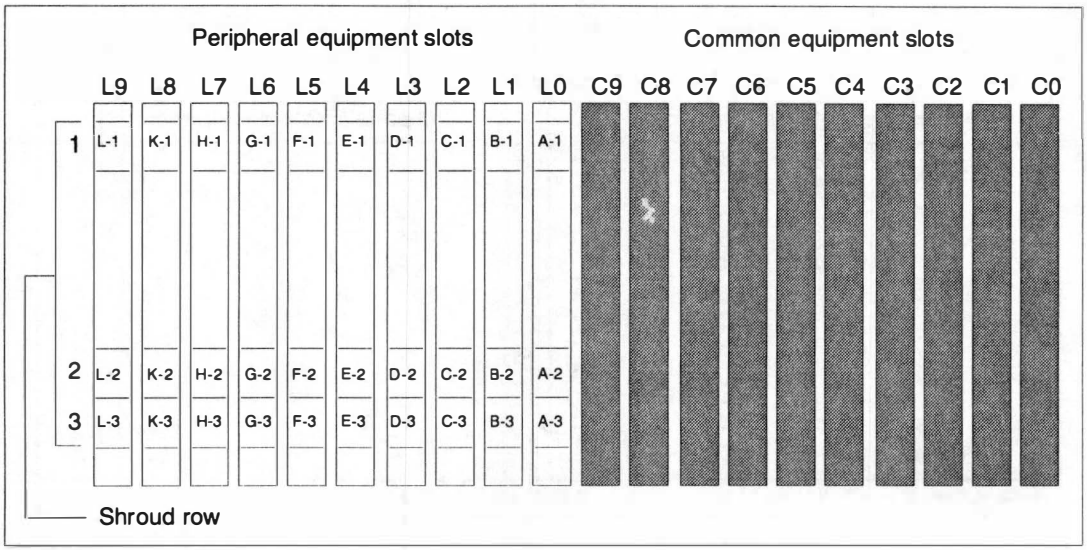
11 If you are cabling peripheral devices to the Option 21-81 through an MDF, label the MDF to show one cable for each PE slot.

Table 4-8 lists cable connections for a fully expanded configuration. Figure 4-6 shows the backplane slots in a fully expanded configuration.

Table 4-8
NT8D11 cable connections (fully expanded configuration)

From backplane slots—shroud rows	To I/O panel/cable designation
L0-1,2,3	A
L1-1,2,3	B
L2-1,2,3	C
L3-1,2,3	D (new cable)
L4-1,2,3	E
L5-1,2,3	F
L6-1,2,3	G (new cable)
L7-1,2,3	H
L8-1,2,3	K
L9-1,2,3	L (new cable)

Figure 4-6
NT8D11 backplane cable designations (fully expanded configuration)



Cable rerouting for NT8D37 IPE module

In the standard 11-cable configuration for the backplane in the NT8D37 IPE module, cables D, H, N and U are not used. Those cables are used in the 16-cable fully expanded configuration.

Cabling for each segment can be expanded using one NT8D81AA cable/filter assembly. Cabling for the entire backplane can be expanded using four NT8D81AA cable/filter assemblies.

> ***Note:*** Backplane slots 0, 4, 8 and 12 (for cables A, E, K and R) are already fully cabled for 24 pairs, so no change is required for those slots.

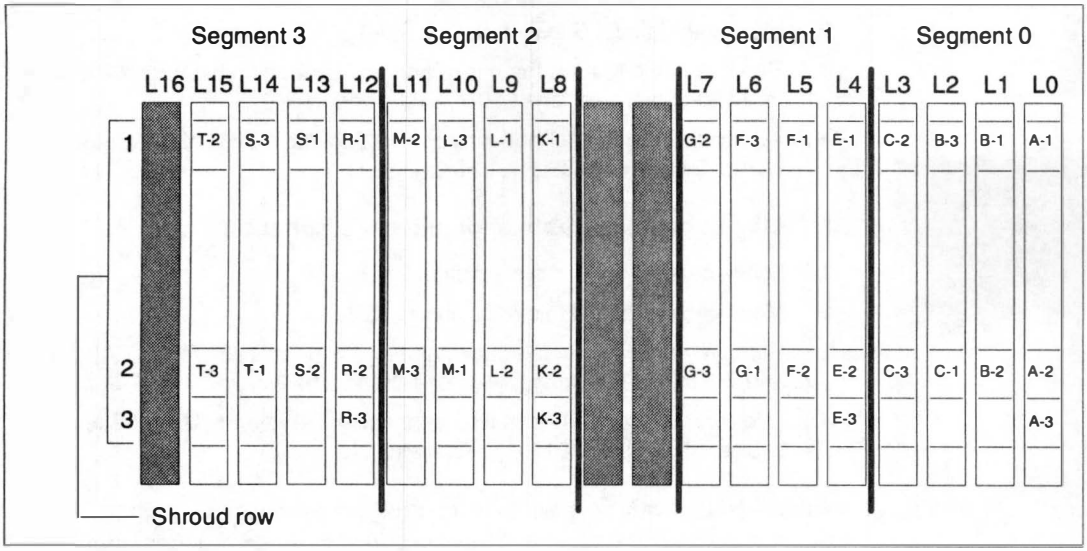
Table 4-9 lists cable connections *before* cable expansion. Figure 4-7 shows the backplane slots *before* cable expansion.

Table 4-9
NT8D37 cable connections (standard configuration)

Backplane slots—shroud rows			I/O panel/cable designation
L0-1	L0-2	L0-3	A
L1-1	L1-2	L2-1	B
L2-2	L3-1	L3-2	C
L4-1	L4-2	L4-3	E
L5-1	L5-2	L6-1	F
L6-2	L7-1	L7-2	G
L8-1	L8-2	L8-3	K
L9-1	L9-2	L10-1	L
L10-2	L11-1	L11-2	M
L12-1	L12-2	L12-3	R
L13-1	L13-2	L14-1	S
L14-2	L15-1	L15-2	T

Note: Cables, D, H, N, and U are not used in this configuration.

Figure 4-7
NT8D37 backplane cable designations (standard configuration)



NT8D37 backplane cable expansion—segment 0

1 Leave cable A as is in slot position L0.

2 Move cable end B-3 to slot position L1-3.

3 Remove cable C from the backplane and connect cable ends C-1, C-2 and C-3 to slot positions L2-1, L2-2 and L2-3.

4 Add cable D to the I/O panel by connecting cable ends D-1, D-2 and D-3 to slot positions L3-1, L3-2 and L3-3.

NT8D37 backplane cable expansion—segment 1

1 Leave cable E as is in slot position L4.

2 Move cable end F-3 to slot position L5-3.

3 Remove cable G from the backplane and connect cable ends G-1, G-2 and G-3 to slot positions L6-1, L6-2 and L6-3.

4 Add cable H to the I/O panel by connecting cable ends H-1, H-2 and H-3 to slot positions L7-1, L7-2 and L7-3.

NT8D37 backplane cable expansion—segment 2

1 Leave cable K as is in slot position L8.

2 Move cable end L-3 to slot position L9-3.

3 Remove cable M from the backplane and connect cable ends M-1, M-2 and M-3 to slot positions L10-1, L10-2 and L10-3.

4 Add cable N to the I/O panel by connecting cable ends N-1, N-2 and N-3 to slot positions L11-1, L11-2 and L11-3.

NT8D37 backplane cable expansion—segment 3

1 Leave cable R as is in slot position L12.

2 Move cable end S-3 to slot position L13-3.

3 Remove cable T from the backplane and connect cable ends T-1, T-2 and T-3 to slot positions L14-1, L14-2 and L14-3.

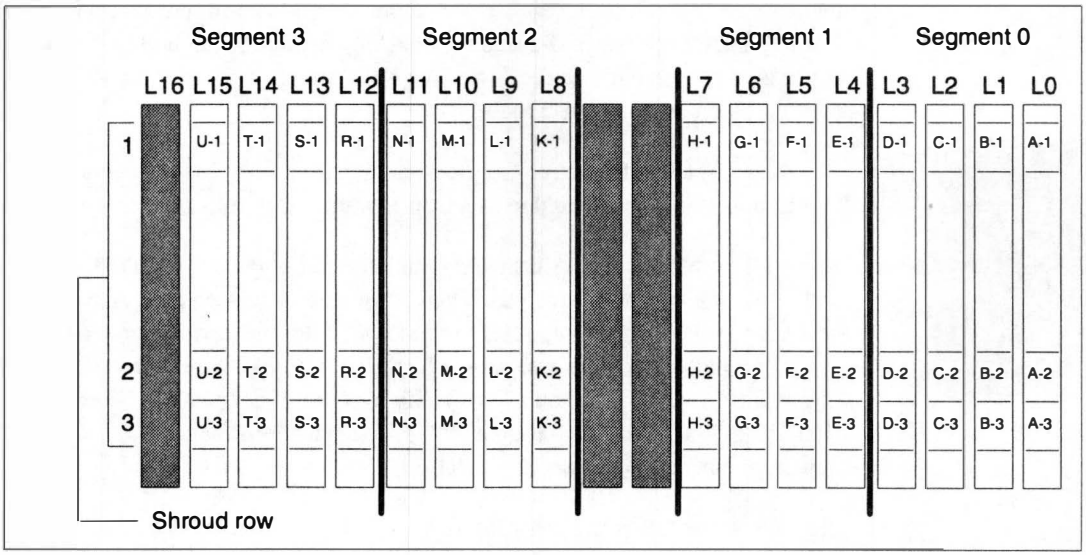
4 Add cable U to the I/O panel by connecting cable ends U-1, U-2 and U-3 to slot positions L1R-1, L15-2 and L15-3.

Table 4-10 lists cable connections for a fully expanded configuration. Figure 4-8 shows the backplane slots in a fully expanded configuration.

Table 4-10
NT8D37 cable connections (fully expanded configuration)

From backplane slots—shroud rows	To I/O panel/cable designation
L0-1,2,3	A
L1-1,2,3	B
L2-1,2,3	C
L3-1,2,3	D (new cable)
L4-1,2,3	E
L5-1,2,3	F
L6-1,2,3	G
L7-1,2,3	H (new cable)
L8-1,2,3	K
L9-1,2,3	L
L10-1,2,3	M
L11-1,2,3	N (new cable)
L12-1,2,3	R
L13-1,2,3	S
L14-1,2,3	T
L15-1,2,3	U (new cable)

Figure 4-8
NT8D37 backplane cable designations (fully expanded configuration)



Input/output port assignments

There are eight ports available for various peripheral devices but three of them are configured for a specific peripheral. Port 1 is configured for the Console Port; Port 2 is configured for the Diagnostic Modem; and Port 8 is configured for the High-Speed Link. The remaining peripherals can be configured on any of Ports 3 to 7.

> ***Note:*** The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

Table 4-11 provides you with a chart which lists all of the assignable ports and shows the type of device which can be connected to each port. As you decide upon the device to connect to each port, enter the device name in the space provided. If you are assigning a Supervisor Workstation, Remote Login, or Network Link, you must specify the type of connection: Direct, Dial-up at 2400 baud, or Dial-up at 9600 baud. This information will be requested during the software installation.

Please note the following abbreviations:

- SW (Supervisor Workstation)
- PRT (Printer)
- LML (Load Management Link)
- NL (Network Link (NetLink))

Please note the following abbreviations for Connection Type:

- DC (Direct Connection)
- 24 (Dial-up connection at 2400 baud)
- 96 (Dial-up connection at 9600 baud)

> ***Note:*** The "Connection type" column in the following table lists all of the possible connections. Some connection types cannot be applied to some available devices. For example, the only connection type possible for a printer is direct connection. Ensure that you do not select an inappropriate connection type.

Table 4-11
Option 21-81 communication port assignment sheet

Port	Cable	Devices available	Device selected	Connection type
1	A	CONSOLE PORT	CONSOLE PORT	N/A
2	B	DIAGNOSTIC MODEM	DIAGNOSTIC MODEM	N/A
3	A	SW / PRT / LML / NL		DC / 24 / 96
4	B	SW / PRT / LML / NL		DC / 24 / 96
5	A	SW / PRT / LML / NL		DC / 24 / 96
6	B	SW / PRT / LML / NL		DC / 24 / 96
7	A	SW / PRT / LML / NL		DC / 24 / 96
8	B	HIGH-SPEED LINK	HIGH-SPEED LINK	N/A

Cabling Option 11 and Option 21-81 to peripherals through a main distribution frame

Peripheral devices do not always have to be connected directly to the Option 11 or Option 21-81. They can also be connected through a main distribution frame (MDF).

ATTENTION

RS-232 cables that directly connect peripherals to the Meridian MAX must not exceed 15 meters (50 feet).

This length is based on an EIA RS-232C standard. Peripherals can be farther away if self-powered limited-distance (own power supply), or dial-up modems are used.

ATTENTION

Cable connections between the LAN and the Meridian MAX must not exceed 50 meters (164 feet).

This connection is an IEEE standard 802.3.

To connect peripheral devices to an Option 11 or an Option 21-81 through an MDF, a 50-pin to 50-pin NT1R03Fx cable is used for ports 1, 3, 5, and 7 while a 50-pin to 50-pin NT1R03Gx cable is used for ports 2, 4, 6, and 8, where x denotes the length of the cable. Connect one end of each cable to the configured ports on the I/O connector panel of the Option 11 or the I/O panels on the Option 21-81.

Connect the other ends to the 50-pin connectors on the customer provided, shielded MDF.

The peripheral devices should be defined on the MDF at this point. The technician can use the NT1R03AA and NT1R03BA pin-out information in Tables 4-13 and 4-14 to wire the Option 11 or Option 21-81 to each peripheral device through the cross-connect panel.

The technician then connects each individual wire through the cross-connect panel directly to the correct peripheral device using the NT1R03AA and NT1R03BA pin-out information in Tables 4-13 and 4-14.

Figure 4-9
NT8D11 CE/PE cabinet input/output connector panel

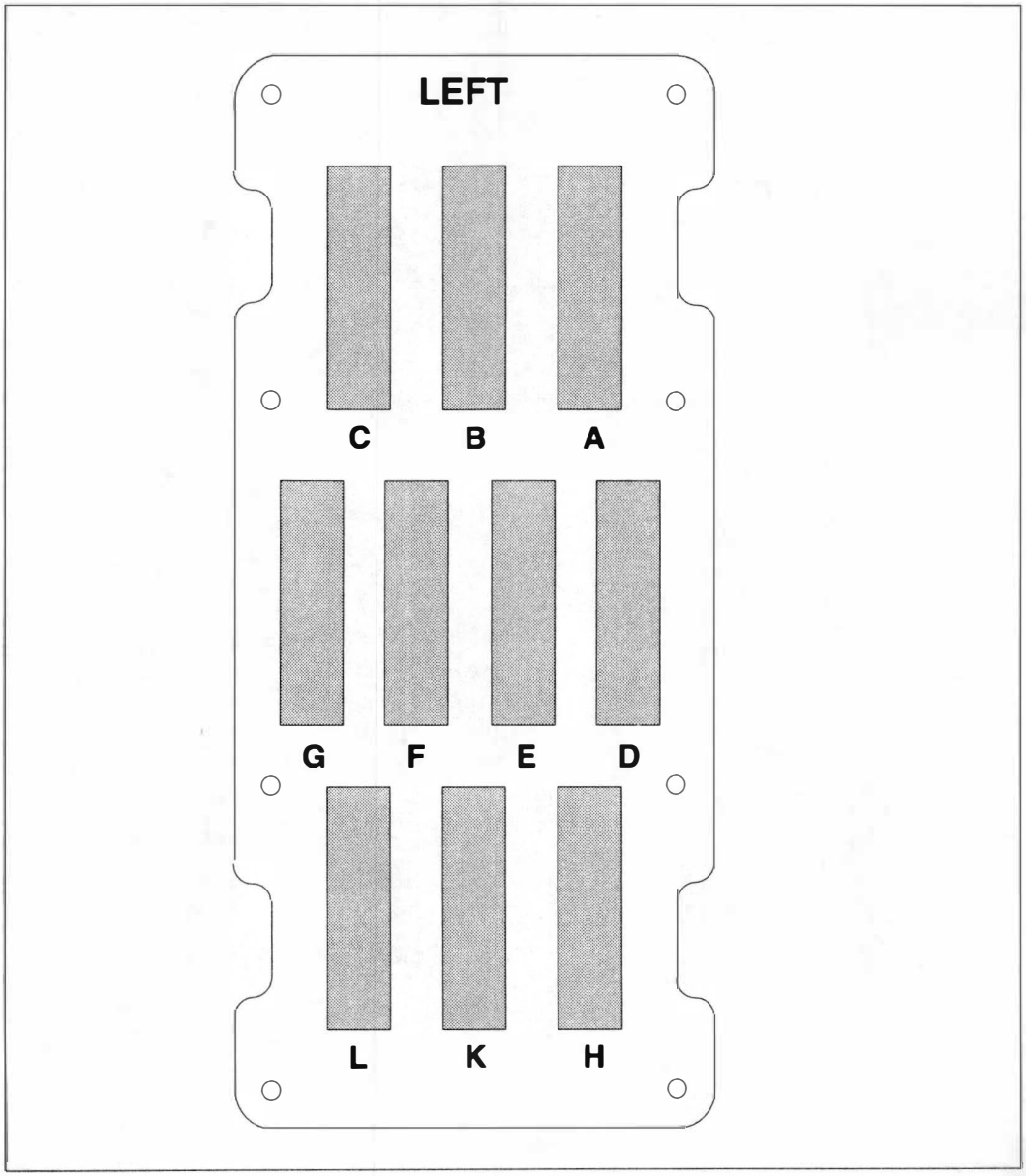
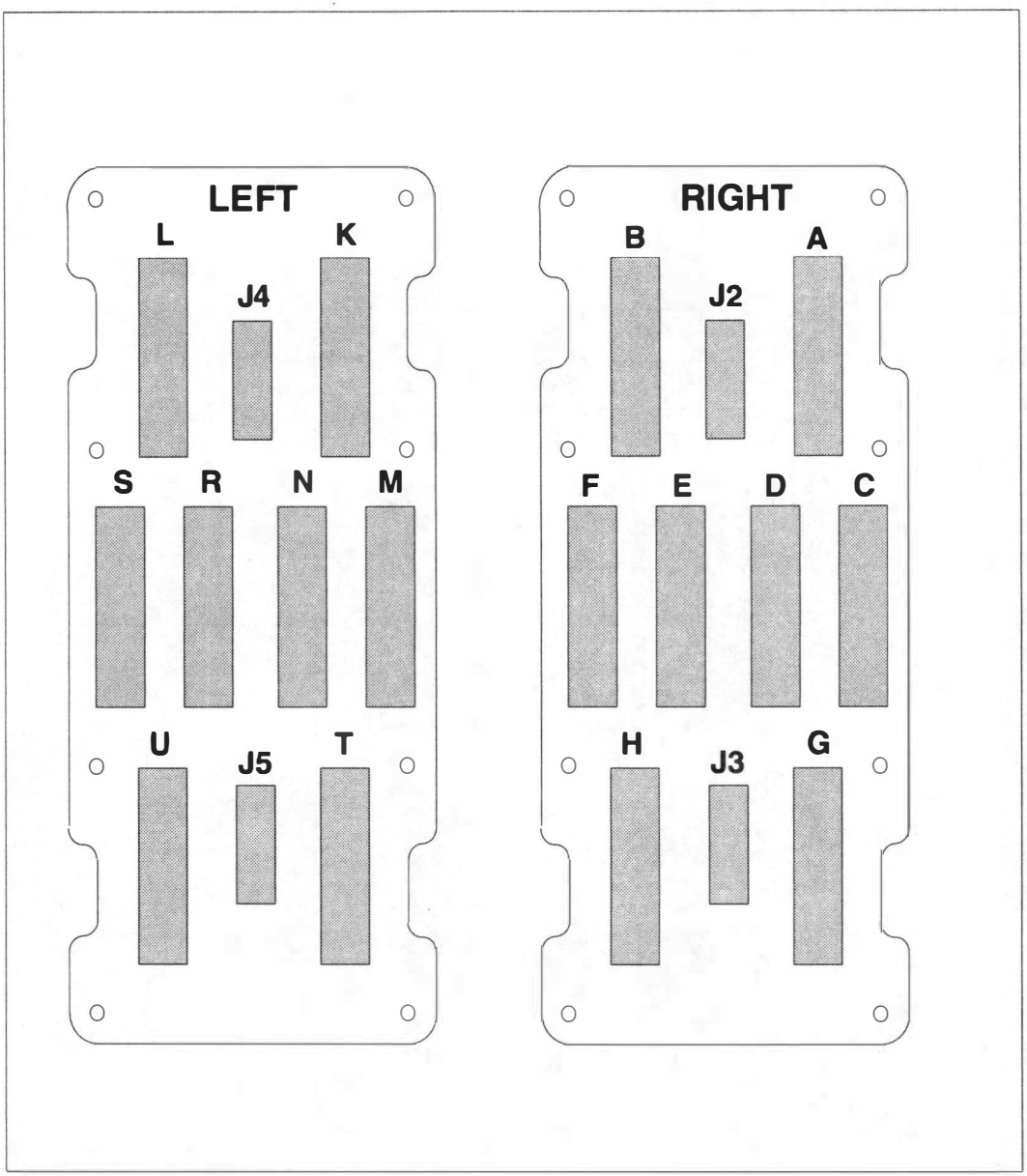


Figure 4-10
NT8D37 IPE cabinet I/O panels



Cables

External input/output cables

Meridian MAX - IPE external cables exit from the base of the Option 11 and the rear of the Option 21-81. Table 4-12 lists all of the external I/O cables and the devices to which they connect. For the gender of each peripheral device, see the individual section for each type of peripheral.

Note: The Configuration Control feature uses a Load Management Link that is also referred to as Configuration Control Link.

Table 4-12
External input/output cables

ENG code	Application	Cable and connector style	Length
NT1R03AA NT1R03BA	Carries input/output information between the Option 11 or Option 21-81 and its peripheral devices (The NT1R03AA also has Ethernet capabilities.)	50-pin (female) key telephone connector to four DB-25 (female) connectors (NT1R03AA also has an Ethernet connection.)	Four connectors 76 cm (30 in) 69 cm (27 in) 61 cm (24 in) 53 cm (21 in) in ladder shape
NT1R03CA	Extends the connection between the Option 11 and the NT1R03AA and NT1R03BA cables	50-pin (female) key telephone connector to 50-pin (male) key telephone connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT1R03DB NT1R03DC NT1R03DF NT1R03DP NT1R03DV	Extension cable from NT1R03AA and NT1R03BA cables to peripheral devices, HSL port or LML port	DB-25 (male) connector to DB-25 (male) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)

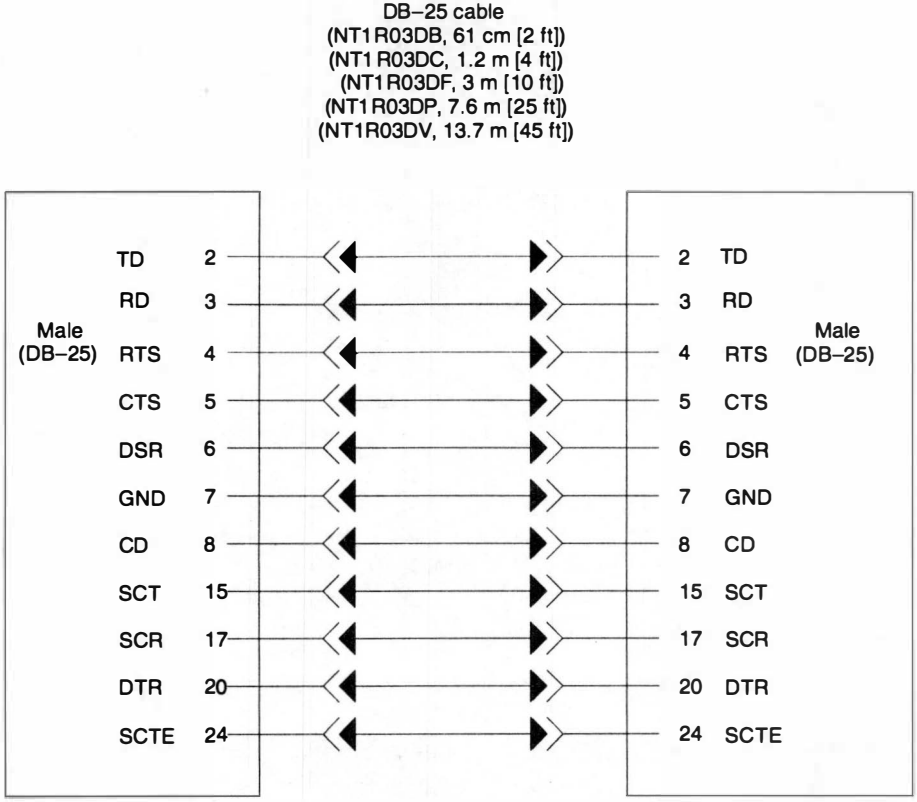
—continued—

Table 4-12 (continued)
External input/output cables

ENG code	Application	Cable and connector style	Length
NT1R03EB NT1R03EC NT1R03EF NT1R03EP NT1R03EV	Extension cable from NT1R03AA and NT1R03BA cables to peripheral devices	DB-25 (male) connector to DB-25 (female) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT1R03HF	Modem cable from NT1R03AA and NT1R03BA cables to modem	DB-25 (male) connector to DB-25 (male) connector	3 m (10 ft)
NT1R03FP NT1R03FV	MDF extension cable between the Option 11 and Option 21-81 and the NT1R03AA cable	50-pin (female) key telephone connector to 50-pin (male) key telephone connector (with Ethernet tap)	7.6 m (25 ft) 13.7 m (45 ft)
NT1R03GP NT1R03GV	MDF extension cable between the Option 11 and Option 21-81 and the NT1R03BA cable	50-pin (female) key telephone connector to 50-pin (male) key telephone connector	7.6 m (25 ft) 13.7 m (45 ft)
NTAK19AA	Carries input/output information between the TDS/DTR card's HSL port on the Option 11 and Port 8 on the NT1R03BA cable	50-pin key telephone connector to two DB-25 (male) connectors	1.8 m (6 ft)
NTAK19BA	Carries input/output information between the SDI/DCH card's HSL port on the Option 11 and Port 8 on the NT1R03BA cable	50-pin key telephone connector to four DB-25 (male) connectors	1.8 m (6 ft)
NT8D93AJ NT8D93AW	Carries input/output information between the HSL port on the Option 21-81 and Port 8 on the NT1R03BA cable	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	4.9 m (16 ft) 14.6 m (48 ft)

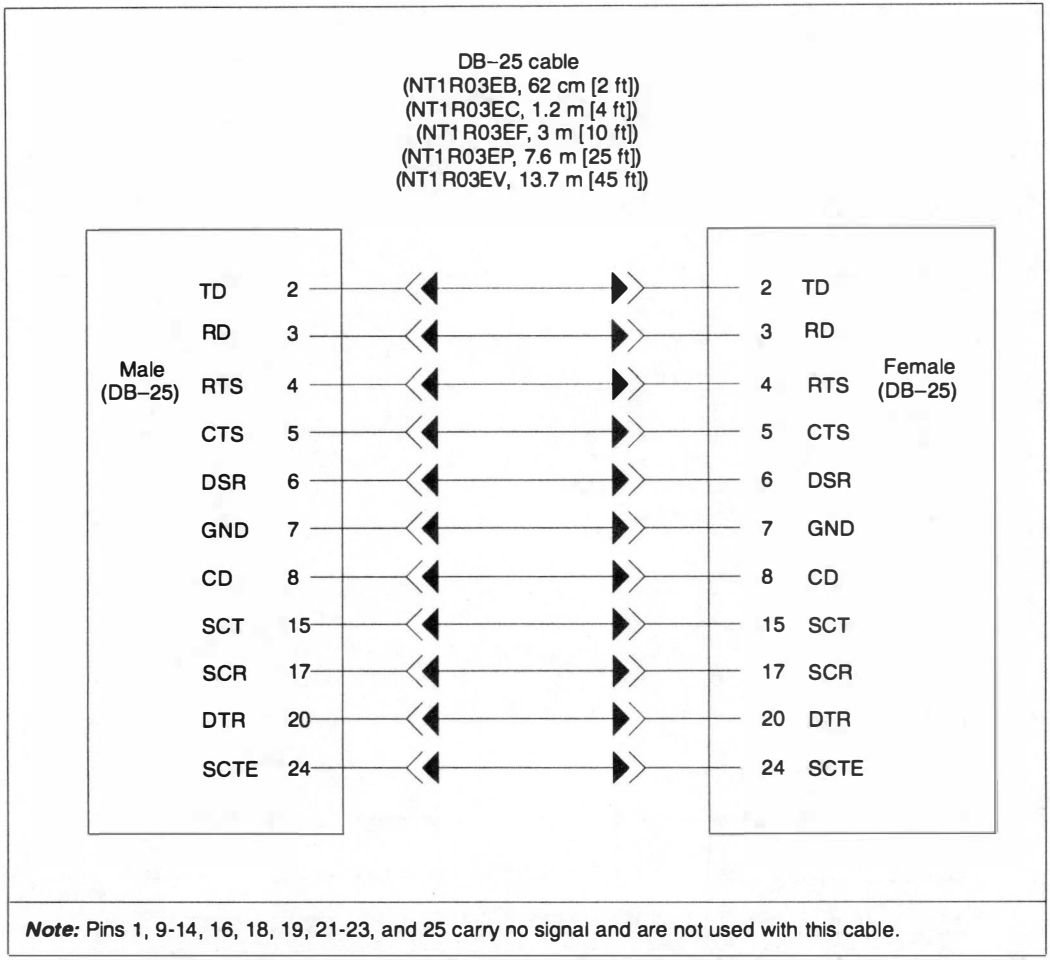
—end—

Figure 4-11
Cabling arrangement—Meridian MAX - IPE NT1R03Dx straight through RS-232 extension cable used between NT1R03AA or NT1R03BA and peripheral devices, HSL port, or LML port



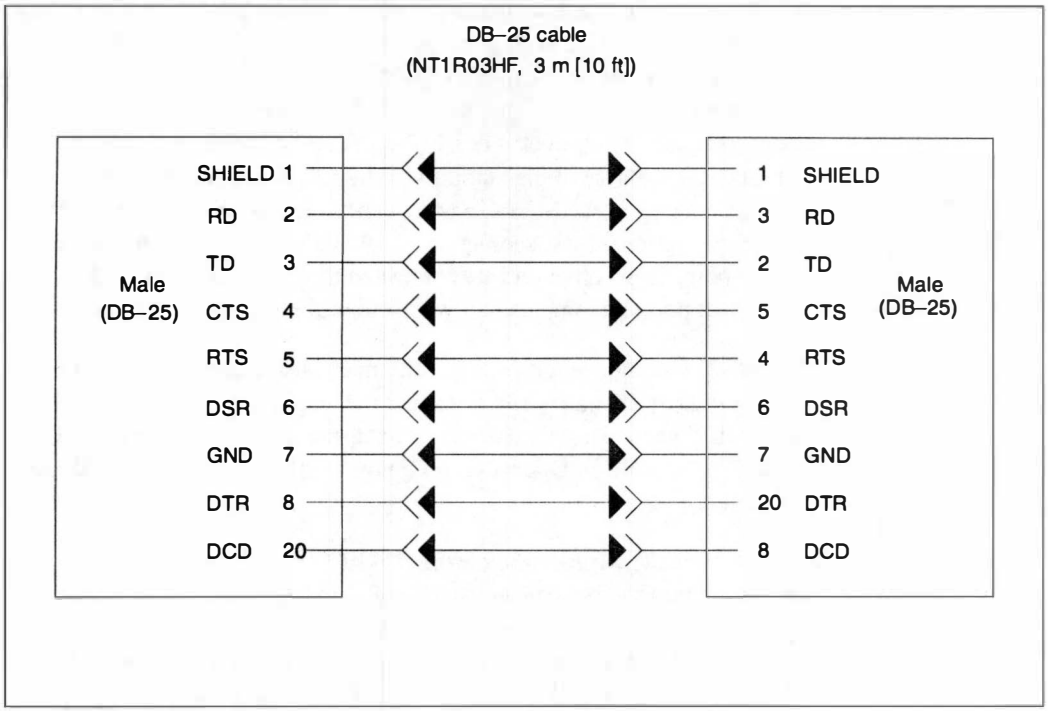
Note: Pins 1, 9-14, 16, 18, 19, 21-23, and 25 carry no signal and are not used with this cable. Only used signals are shown.

Figure 4-12
Cabling arrangement—Meridian MAX - IPE NT1R03Ex straight through RS-232 extension cable used between NT1R03AA or NT1R03BA and peripheral devices



Note: Pins 1, 9-14, 16, 18, 19, 21-23, and 25 carry no signal and are not used with this cable.

Figure 4-13
Cabling arrangement: Meridian MAX - IPE NT1R03HF modem cable used between NT1R03AA or NT1R03BA and modems



NT1R03AA/NT1R03BA four-port I/O cable

The NT1R03AA and NT1R03BA four-port I/O cables connect the Meridian MAX - IPE module with each peripheral in the system. The NT1R03BA cable has a single 50-pin key telephone connector at one end, and four female DB-25 connectors at the other end, as shown in Figure 4-15. The NT1R03AA also has an additional port reserved for the LAN connection, as shown in Figure 4-14. The 50-pin key telephone connector connects to the DB-25 socket of a NT1R03CA extension cable that is connected at the base of the Option 11. The 50-pin key telephone connector can also connect to the Meridian MAX - IPE module breakout panel at the rear of the Option 21-81 (see Figures 4-14 and 4-15). Each of the three DB-25 plugs at the other end are connected to a peripheral device. Refer to the correct port assignment chart when connecting peripherals to cables.

The RS-232 straight-through cable with male DB-25 connectors seen in Figures 4-11, 4-12, and 4-13 can extend the range between a Meridian MAX - IPE and a peripheral device. The distance between a peripheral RS-232 device and an Option 11 or Option 21-81 must not exceed 50 feet (15 meters).

Table 4-13 is the wiring table for the NT1R03AA four-port I/O cable with the additional Ethernet connector. Table 4-14 is the wiring table for the NT1R03BA four-port I/O cable. Note that all of the pins listed in the "FROM" column represent pins in the 50-pin key telephone connector which connects to the Meridian MAX - IPE module. Pins listed in the "TO" column are pins in the DB-25 sockets for the cables listed in the "CABLE" column.

Figure 4-14
NT1R03AA four-port I/O cable

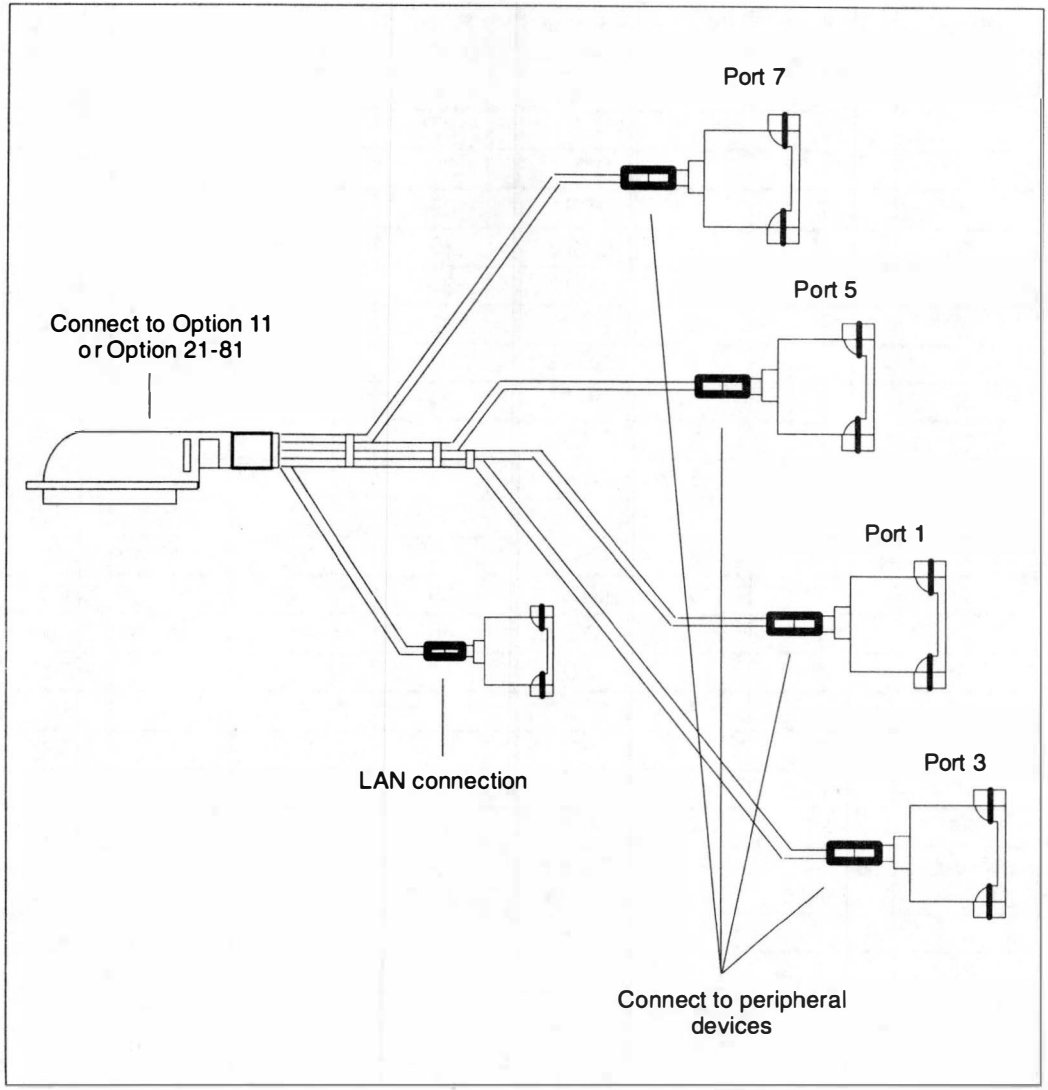


Table 4-13
NT1R03AA 50-pin four-port cable wiring

From DB-50	To DB-25	Port	Signal name	From DB-50	To DB-25	Port	Signal name
1	7	1	GND1	26	8	1	DCD1
2	2	1	TXD1	27	3	1	RXD1
3	4	1	RTS1	28	5	1	CTS1
4	6	1	DSR1	29	20	1	DTR1
5	7	3	GND3	30	8	3	DCD3
6	2	3	TXD3	31	3	3	RXD3
7	4	3	RTS3	32	5	3	CTS3
8	6	3	DSR3	33	20	3	DTR3
9	7	5	GND5	34	8	5	DCD5
10	2	5	TXD5	35	3	5	RXD5
11	4	5	RTS5	36	5	5	CTS5
12	6	5	DSR5	37	20	5	DTR5
13	15	5	TXCI5	38	17	5	RXCI5
14	22	5	RI5	39	24	5	TXCO5
15	7	7	GND7	40	8	7	DCD7
16	2	7	TXD7	41	3	7	RXD7
17	4	7	RTS7	42	5	7	CTS7
18	6	7	DSR7	43	20	7	DTR7
19	15	7	TXCI7	44	17	7	RXCI7
20	22	7	RI7	45	24	7	TXCO7
From DB-50	**To DB-15**	**Port**	**Signal name**	**From DB-50**	**To DB-15**	**Port**	**Signal name**
21	2	Ethernet	C+	46	9	Ethernet	C-
22	3	Ethernet	T+	47	10	Ethernet	T-
23	5	Ethernet	R+	48	12	Ethernet	R-
24	6	Ethernet	SG	49	13	Ethernet	+12VF
25		FGND	FGND	50		FGND	FGND

Note: The cable wiring for the NT1R03AA Ethernet connector indicated at pins 21-24 and pins 46-49 on the DB-50 connector map onto pins 2, 3, 5, and 6, and pins 9, 10, 12, and 13 of the DB-15 Ethernet connector.

Figure 4-15
NT1R03BA four-port I/O cable

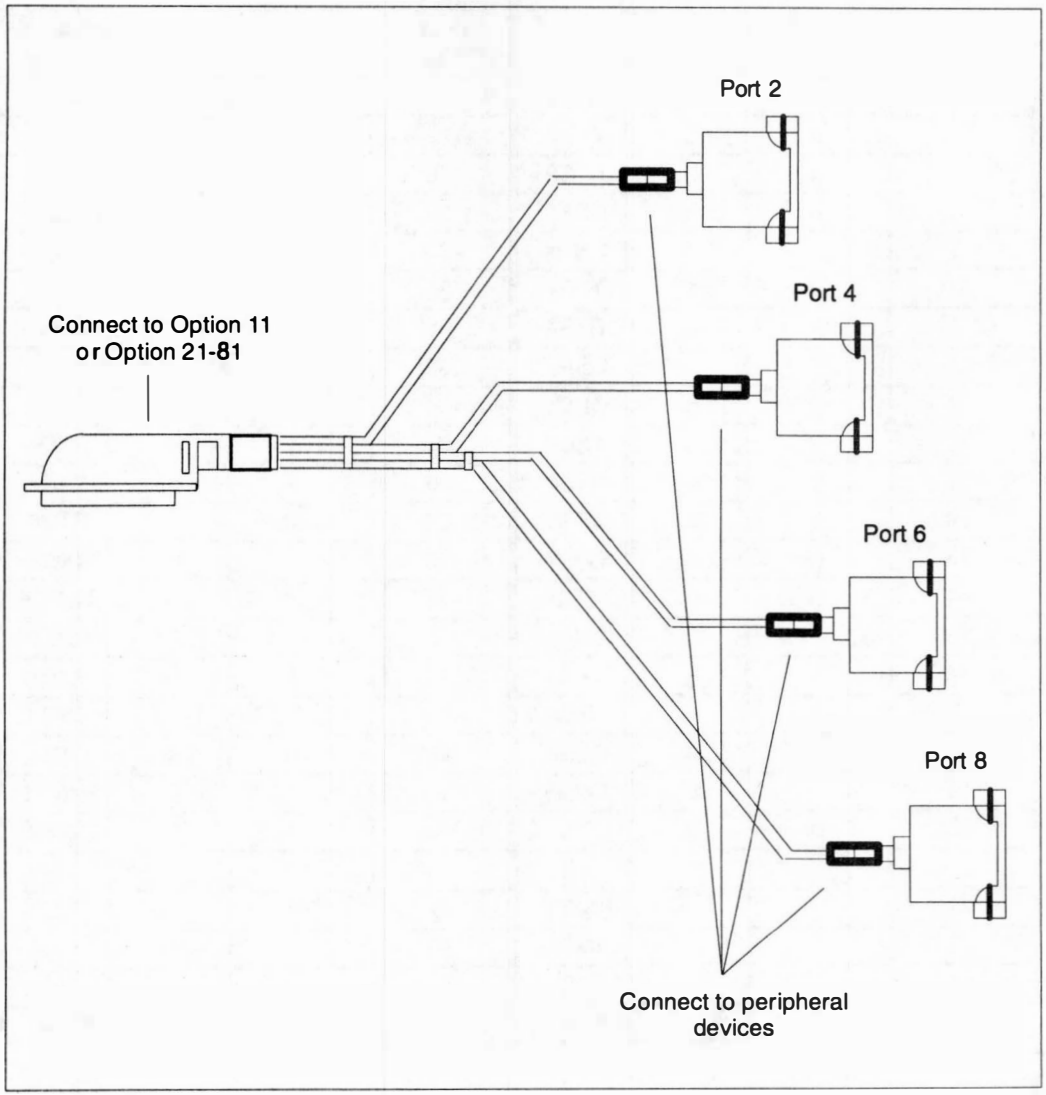


Table 4-14
NT1R03BA 50-pin four-port cable wiring

From DB-50	To DB-25	Port	Signal name	From DB-50	To DB-25	Port	Signal name
1	7	2	GND2	26	8	2	DCD2
2	2	2	TXD2	27	3	2	RXD2
3	4	2	RTS2	28	5	2	CTS2
4	6	2	DSR2	29	20	2	DTR2
5	7	4	GND4	30	8	4	DCD4
6	2	4	TXD4	31	3	4	RXD4
7	4	4	RTS4	32	5	4	CTS4
8	6	4	DSR4	33	20	4	DTR4
9	7	6	GND6	34	8	6	DCD6
10	2	6	TXD6	35	3	6	RXD6
11	4	6	RTS6	36	5	6	CTS6
12	6	6	DSR6	37	20	6	DTR6
13	15	6	TXCI6	38	17	6	RXCI6
14	22	6	RI6	39	24	6	TXCO6
15	7	8	GND8	40	8	8	DCD8
16	2	8	TXD8	41	3	8	RXD8
17	4	8	RTS8	42	5	8	CTS8
18	6	8	DSR8	43	20	8	DTR8
19	15	8	TXCI8	44	17	8	RXCI8
20	22	8	RI8	45	24	8	TXCO8
21			NC	46			NC
22			NC	47			NC
23			NC	48			NC
24			NC	49			NC
25		FGND	FGND	50		FGND	FGND

Hardware upgrades

As your operation and needs grow, so does your need to expand the system. A Meridian MAX - IPE module for the Option 11 system can be upgraded in the field to a Meridian MAX - IPE module for the Option 21-81 system by means of a Meridian MAX - IPE hardware upgrade kit (A0600072) consisting of a new frame, faceplate, mounting hardware, labels, and documentation.

There is no need to reinstall the system software, since the same hard disk is used.

If you need to replace a component of the system, the upgrade instructions given in this section permit you to make the replacement.

CAUTION
Risk of equipment damage
Use an anti-static wrist strap before you remove components from an anti-static bag. Failure to do so results in damage to components.

All upgrades must be performed by qualified technicians.

CAUTION
Risk of data corruption
Shut down the system from the maintenance menu, then secure the system before powering down the module.

If you are adding a module to your system, power down the column. Once the appropriate equipment is powered down, remove the column's faceplate and back plate for the appropriate shelf.
See the "Meridian MAX power-down procedure" chapter for more information.

Performing the hardware upgrade

Procedure 4-1 details instructions on performing a hardware upgrade.

Procedure 4-1
To perform the hardware upgrade

1 Shutdown the Meridian MAX software, then ensure the power to the IPE module is turned off.

Refer to the "Meridian MAX power-down procedure" chapter for instructions to shut down the Meridian MAX software.

2 Remove the Meridian MAX - IPE module from the Option 11 or Option 21-81.

Move the latches at the top and bottom of the module to the unlatched position. Slowly slide the module along the slots and remove it from the cabinet.

3 Lay the module on its side with the outside of the disk drive card facing up as in Figure 4-17 and the faceplate of the Option 11 Meridian MAX - IPE module facing you.

4 Remove the SCSI terminator from the faceplate of the Meridian MAX - IPE.

5 Using a small Phillips screwdriver, unscrew the six screws located on the outside of the disk drive card as shown in Figure 4-17.

These screws are indicated by arrows printed on the disk drive card. Set the screws and flat washers aside.

6 Hold the disk drive card by the edges. Push the disk drive card away from the faceplate, then lift it up and away.

7 To separate the disk drive card from the CPU card, disconnect the SCSI I/O cable from the CPU card at connector J14 shown in Figure 4-16.

Pull open the ejectors at either end of the SCSI cable plug on the CPU card and lift the connector out of the plug.

8 Disconnect the power cable from the CPU card at connector J5 shown in Figure 4-16.

9 Turn the CPU card over and remove the Option 11 bracing support shown in Figure 4-16.

This bracing support sits inside the module between the CPU and disk drive cards. Hold the support with one hand while removing the screw from the CPU board with the other.

10 Remove the six screws and flat washers securing the CPU card to the Meridian MAX - IPE module frame as shown in Figure 4-16.

11 Pull the CPU card away from the faceplate and lift.

The Option 21-81 Meridian MAX - IPE module frame is identical in construction to the Option 11 module frame except that it is wider. The screw holes in the Option 21-81 module frame are in the same locations as the Option 11 module frame.

12 Place the CPU card against the Option 21-81 module frame, making sure the edge of the card is securely against the faceplate.

Make sure to line up the ABORT and RESET switches with the corresponding cutouts in the Meridian MAX - IPE module frame.

13 Replace the six screws and flat washers, reattaching the CPU card to the Option 21-81 Meridian MAX - IPE module frame as shown in Figure 4-16.

14 Insert the Option 21-81 bracing support shown in Figure 4-16.

This bracing support sits inside the module between the CPU and disk drive cards. Hold the support with one hand while inserting the screw into the CPU board with the other.

15 Turn the CPU card and frame over and reconnect the disk drive card to the CPU card by connecting the power cable to the CPU card at connector J5 shown in Figure 4-16.

16 Connect the disk drive card's SCSI I/O cable to the CPU card at connector J14 shown in Figure 4-16. Make sure the SCSI plug's key bumps are lined up correctly and the latches are closed.

17 With the faceplate of the Option 21-81 Meridian MAX - IPE module facing you, hold the disk drive card by the edges. Close the module by lifting the disk drive card towards you and pulling it towards you until it is securely against the faceplate.

18 Reattach the disk drive card to the Meridian MAX - IPE module frame using the six original screws and flat washers as shown in Figure 4-17.

These screws holes are indicated by arrows printed on the disk drive card.

19 Reattach the SCSI terminator to the SCSI port.

Make sure the terminator is firmly in place.

20 Insert the upgraded Meridian MAX - IPE module into the Option 11 or Option 21-81.

Slowly slide the module along the slots into the cabinet, making sure the latches at the top and bottom of the module are in an unlatched position, until it is firmly in place. Make sure the latches at the top and bottom of the module are secured.

21 Power on the Meridian MAX - IPE module.

Figure 4-16
Meridian MAX - IPE CPU card

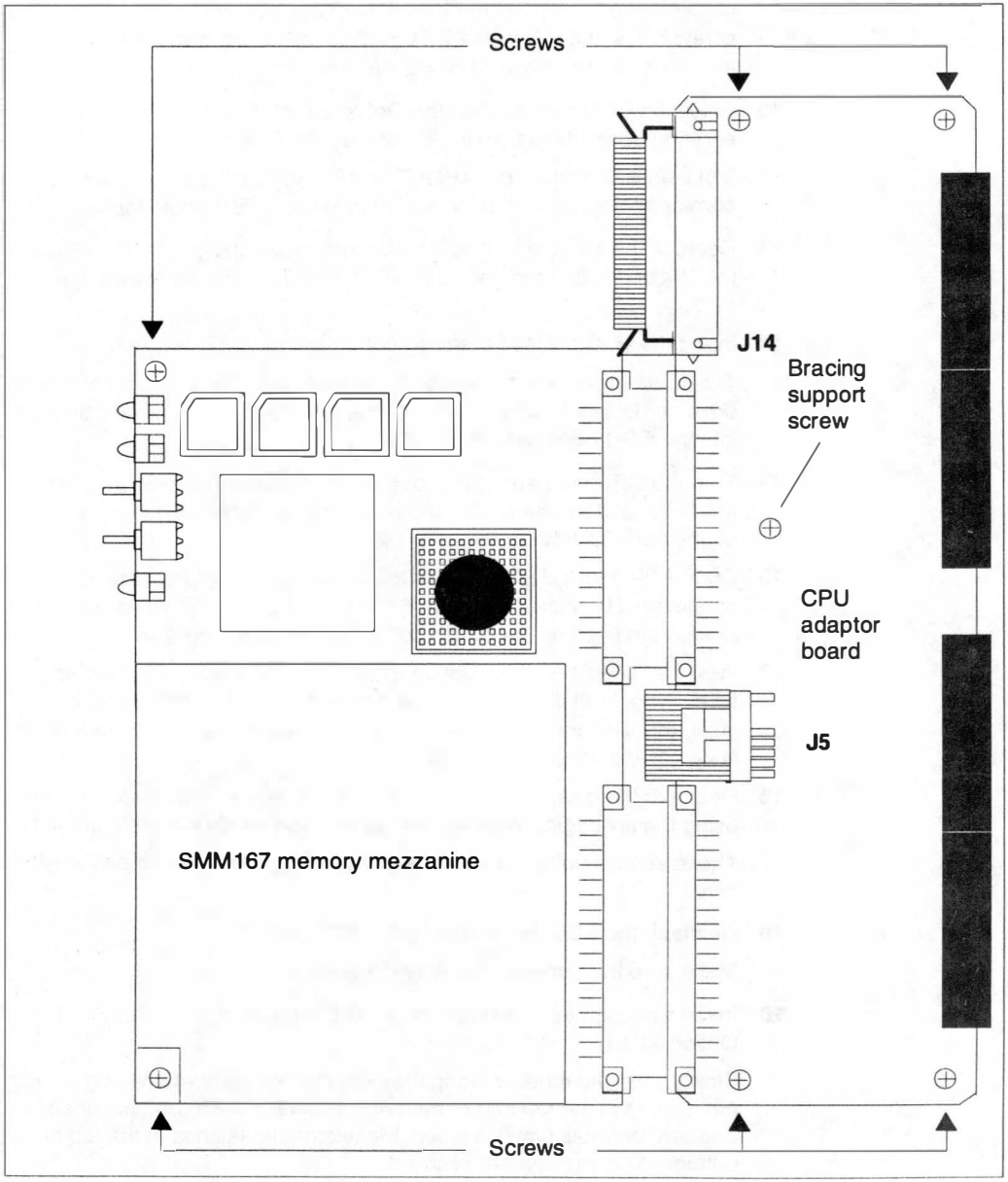


Figure 4-17
Meridian MAX - IPE disk drive card: outside view

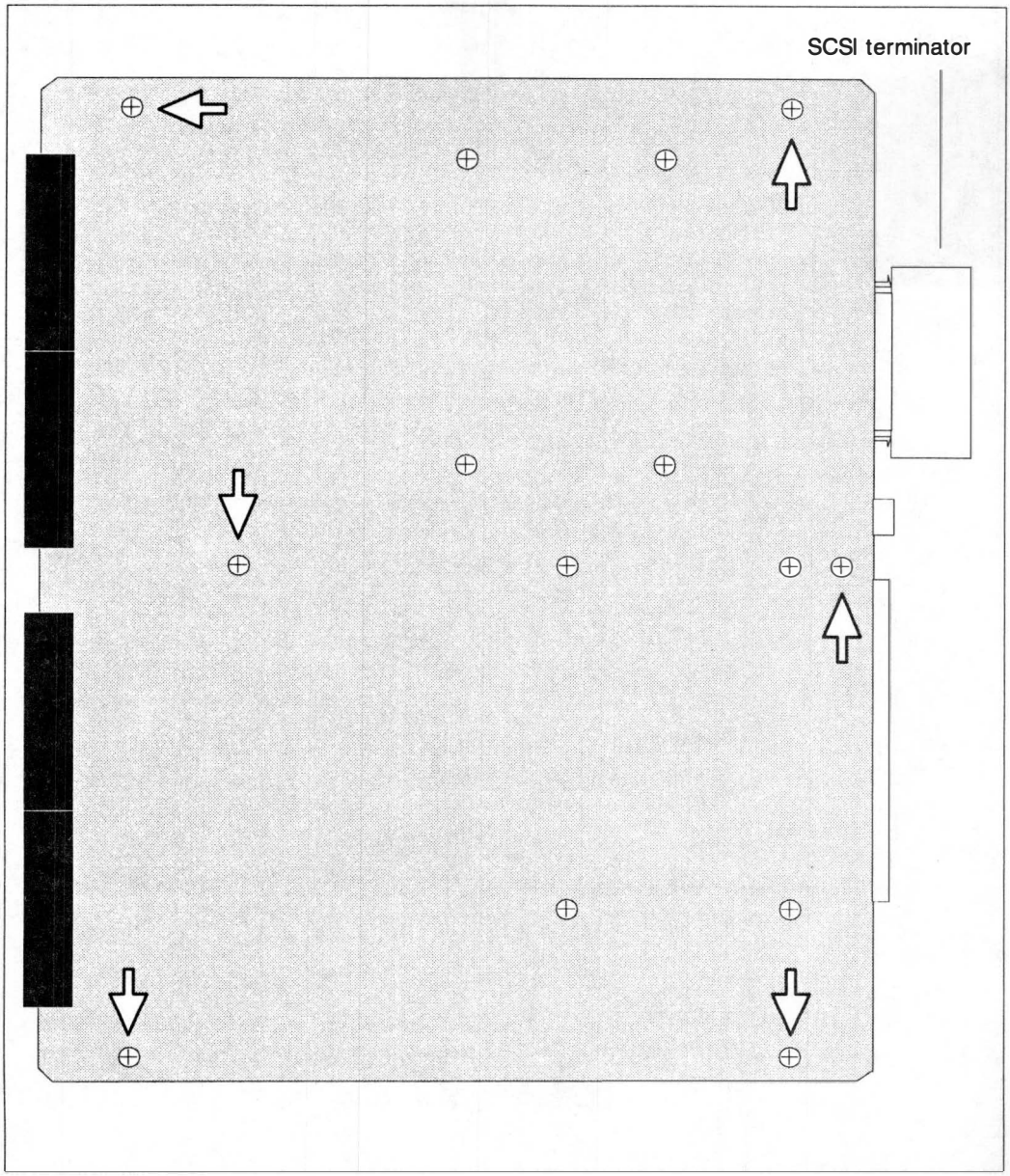
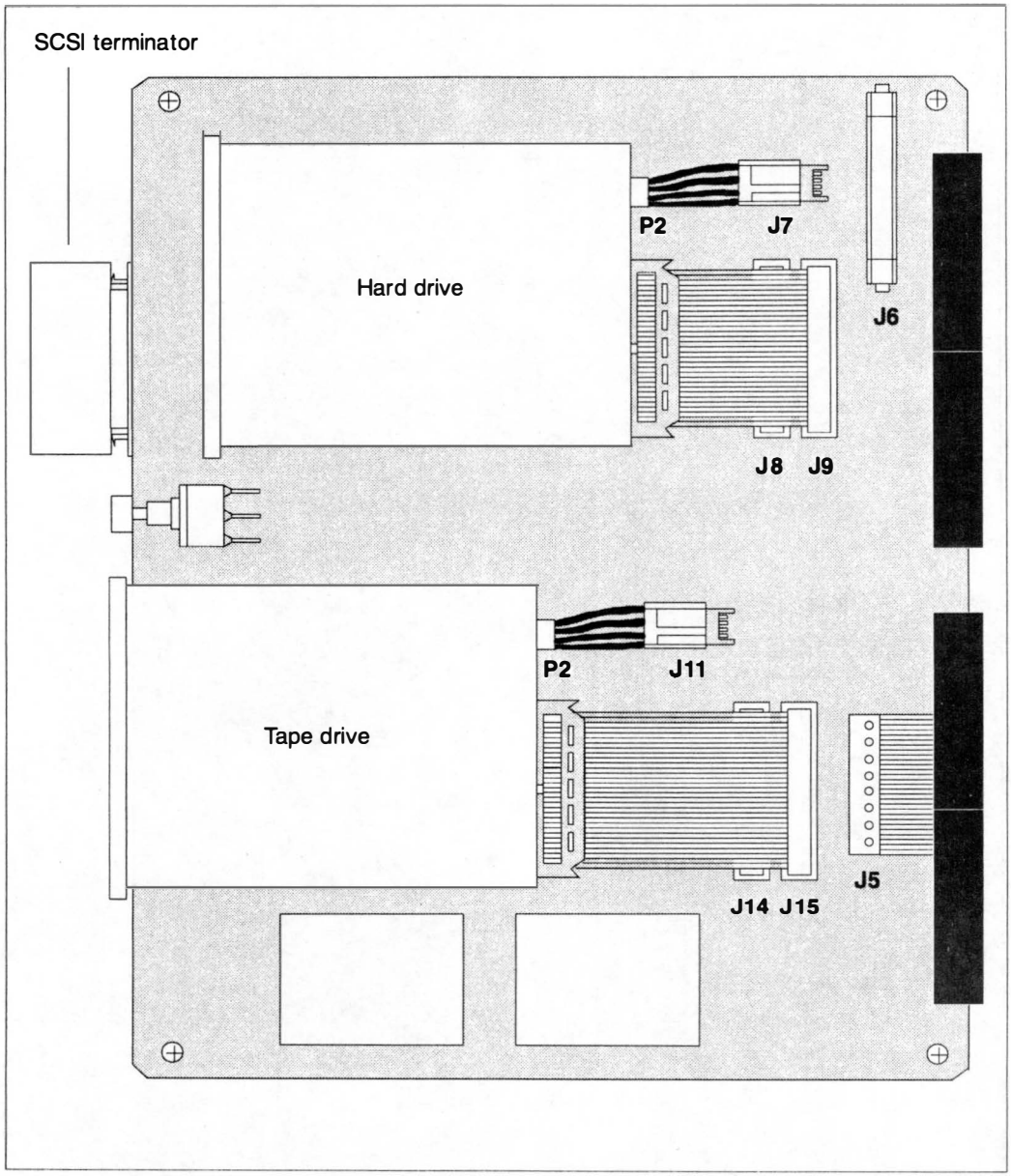


Figure 4-18
Meridian MAX - IPE disk drive card: inside view



Hardware replacements

CAUTION
Risk of equipment damage
Use an anti-static wrist strap before you remove components from an anti-static bag. Failure to do so results in damage to components.

All replacements must be performed by qualified technicians.

CAUTION
Risk of data corruption
Shut down the system from the maintenance menu, then secure the system before powering down the module.

If you are adding a module to your system, power down the column. Once the appropriate equipment is powered down, remove the column's faceplate and back plate for the appropriate shelf.
See the "Meridian MAX power-down procedure" chapter for more information.

Procedure 4-2 details instructions on performing a hardware replacement.

Procedure 4-2
To perform the hardware replacement

1 Shutdown the Meridian MAX software, then ensure the power to the IPE module is turned off.

Refer to the "Meridian MAX power-down procedure" chapter for instructions to shut down the Meridian MAX software.

2 Remove the Meridian MAX - IPE module from the Option 11 or Option 21-81.

Move the latches at the top and bottom of the module to the unlatched position. Slowly slide the module along the slots and remove it from the cabinet.

3 Insert the replacement Meridian MAX - IPE module into the Option 11 or Option 21-81.

Slowly slide the module along the slots into the cabinet, making sure the latches at the top and bottom of the module are in an unlatched position, until it is firmly in place. Make sure the latches at the top and bottom of the module are secured.

4 Power on the Meridian MAX - IPE module.

Configuring the SMM167 card

Procedure 4-3 describes the configuration of the SMM167 for use with the Option 11 and Option 21 Meridian MAX - IPE modules.

Procedure 4-3
Configuring the SMM167 card

Step	Installer's action and system's response
1	Shut down the Meridian MAX software. Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Shut down the system" section for instructions on shutting down your Meridian MAX system.
2	Secure the Meridian MAX 7 system for power down. Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and Administration programs: system shut down" chapter, "Restart and Power Down Utilities" section, "Secure the System for Power Down" subsection for more information.
3	Power down your system by pressing the power button located at the front of the IPE module to the OFF position. Wait approximately 20 seconds, then press the power switch to the ON position.

4	The system displays the following at the maintenance workstation:
	
	`Copyright Motorola Inc. 1989 - 1992, All Rights Reserved`
	
	`M4120 Debugger/Diagnostics Release Version 1.0 - 09/04/92`
	
	`COLD Start`
	
	`Local Memory Found =01000000 (&16777216)`
	
	`MPU Clock Speed =25Mhz`

—continued—

Procedure 4-3 (continued)
Configuring the SMM167 card

Step	Installer's action and system's response
	If your card was preset in the factory, the following message appears: `Autoboot in progress... To abort hit <BREAK>`

5	Press the **{BREAK}** key if your SMM167 card was preset in the factory.
	`--Break Detected--`
	The following menu does not appear if your card was preset in the factory:
	`1) Continue System Start Up`
	`2) Select Alternate Boot Device`
	`3) Go to System Debugger`
	`4) Initiate Service Call`
	`5) Display System Test Errors`
	`6) Dump Memory to Tape`
	`Enter Menu #:`

6	If your card was not preset in the factory, enter **3** to select the "Go to System Debugger" option.
	The system displays the following prompt:
	`4120-Diag>`
	If your card was preset in the factory, the system displays the following prompt instead:
	`4120-Bug>`

—continued—

Procedure 4-3 (continued)
Configuring the SMM167 card

Step	Installer's action and system's response
7	Enter **env** to configure the system environment. The default values that appear when the system is powered on are in effect at this moment. They may differ if the card was configured at the factory or at the site. Regardless, only the following recommended values should be entered. `Bug or System environment [B/S] = ?`
8	Enter **b** for bug. The system displays the following prompt: `Field Service Menu Enable [Y/N] = ?`
9	Enter **n** to reject the Field Service Menu. The system displays the following prompt: `Probe System for Supported I/O controllers [Y/N] = ?`
10	Enter **y** to probe system for supported I/O controllers. The system displays the following prompt: `Local SCSI Bus Reset on Debugger Startup [Y/N] = ?`
11	Enter **y** to start up the local SCSI bus reset on the debugger. The system displays the following prompt: `Ignore CFGA Block on a Hard Disk Boot [Y/N]  = ?`
12	Enter **y** to ignore CFGA block on a hard disk boot. The system displays the following prompt: `Auto Boot Enable [Y/N]  = ?`

—continued—

Procedure 4-3 (continued)
Configuring the SMM167 card

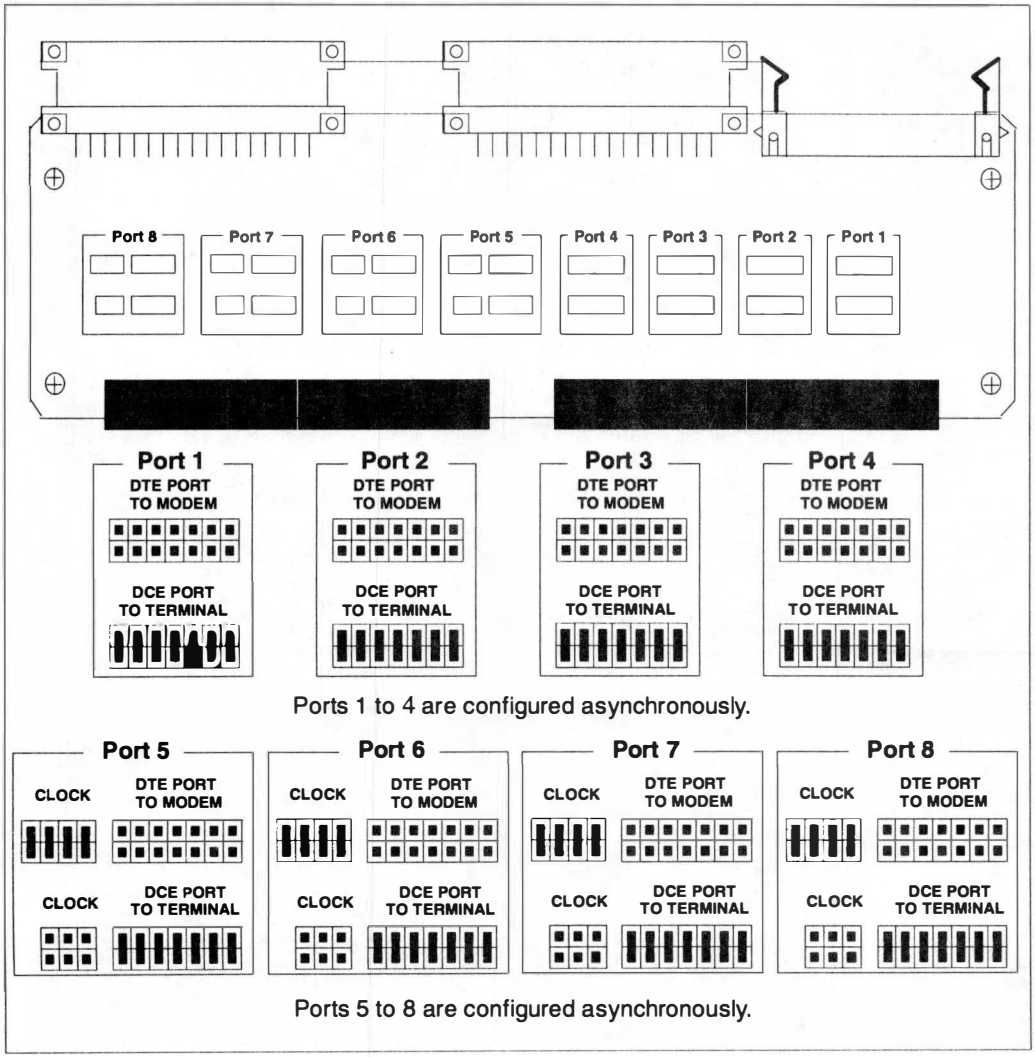
Step	Installer's action and system's response
13	Enter **y** to enable the auto boot. The system displays the following prompt: `Auto Boot at power-up only [Y/N] = ?`
14	Enter **n** to disable auto boot at power-up only. The system displays the following prompt: `Auto Boot Controller LUN = ?`
15	Enter a period (.). The system displays the following prompt: `Update Non-Volatile RAM [Y/N] = ?`
16	Enter **y**. Wait for the next prompt to appear on your screen. When the prompt appears, power down your system by pressing the power button located on the faceplate of the IPE module. At this point, you may replace the SMM167 card if necessary (refer to the "Hardware replacements" section for more details), or power on the system and install your Meridian MAX software.

—end—

SMM167 card jumper settings

Figure 4-19 describes the jumper settings for the Option 11 and Option 21-81 Meridian MAX - IPE module CPU card. These settings are configured in the factory so no field configuration is required.

Figure 4-19
SMM167 card jumper settings



Chapter 5: Modems

When a peripheral device or a Network Administration Center (NAC) system is located at distance greater than 15 meters (50 feet) from the Meridian MAX system a modem may be used.

Supported modems

There are a number of modems that can be used to connect a NAC system or peripheral device to the Meridian MAX. Table 5-1 lists each type of modem and the gender of its DB-25 serial port.

Table 5-1
Modems—DB-25 serial port genders

Modem type	Gender
Gandalf LDS 120E	Female
Develcon DS511A	Female
NetComm SmartModem M7F	Female
Racal VI2422PA	Female
UDS 2440	Female
UDS EC224A/D	Female
Ven-Tel 2400 Plus II	Female
Ven-Tel 9600 Plus	Female

Table 5-2 lists the modems and the functions for which they can be used. Refer to appropriate section listed in the "Modem functions" columns.

Table 5-2
Modems and functions

Modem	Modem function				
	Limited distance	Remote diagnostics	Dial-up supervisor	Remote supervisor login	Network link
Gandalf LDS 120E	Yes			Yes	Yes
Develcon DS511A	Yes			Yes	Yes
NetComm Smart-Modem M7F		Yes	Yes	Yes	Yes
Racal VI2422PA		Yes	Yes	Yes	Yes
UDS 2440		Yes	Yes	Yes	Yes
UDS EC224A/D		Yes	Yes		
Ven-Tel 2400 Plus II			Yes	Yes	Yes
Ven-Tel 9600 Plus			Yes	Yes	Yes

A limited distance modem is used when peripheral devices are connected to the Meridian MAX through a direct connection. If a direct connection cannot be supported, a dial-up modem is used to connect the peripheral device or NAC to the Meridian MAX through the public service telephone network (PSTN).

Other modems

It may be possible to use other modems for dial-up supervisor displays, remote supervisor logins, or network links, provided they support the correct subset of standard Hayes modem commands. A set of modem responses must also be supported. Table 5-3 shows the list of commands and Table 5-4 shows the list of responses that must be supported.

Table 5-3
Supported Hayes modem commands

Command	Usage
+++	Escape sequence
AT&C1	
AT&D0	
AT&D2	
AT&F	Recall factory settings
AT&W	Write parameters
ATDS1	Dial stored number
ATDS=1*	Dial stored number
ATDT...	Dial
ATE0	Echo off
ATH0	On hook
ATL0	
ATQ0	Result codes on
ATS0=0	Auto answer ring number
ATS2=128	Escape code character
ATS64=1	Dial/answer sequence abort
ATX4	Extended feature set

* This command is only used with the NetComm SmartModem M7F.

Table 5-4
Supported modem responses

Command	Response
0	OK
1	RING
2	CONNECT 1200
3	CONNECT 2400
4	CONNECT 4800
5	CONNECT 9600
6	CONNECT
7	NO CARRIER
8	MODEM ERROR
9	NO DIAL TONE
10	BUSY
11	NO ANSWER

Modem cables

Modems can be connected to the Meridian MAX using two modem cables: the NT7D99AA null modem cable and the NT7D61Ax cable.

Figure 5-1 shows the cabling arrangement for the NT7D99AA cable for use with dial-up supervisor, remote supervisor login and network link.

Figure 5-2 shows the cabling arrangement for the NT7D61Ax cable for use with remote diagnostics.

Figure 5-1
Cabling arrangement—modem connection cable NT7D99AA for dial-up supervisor, remote supervisor login, and network link

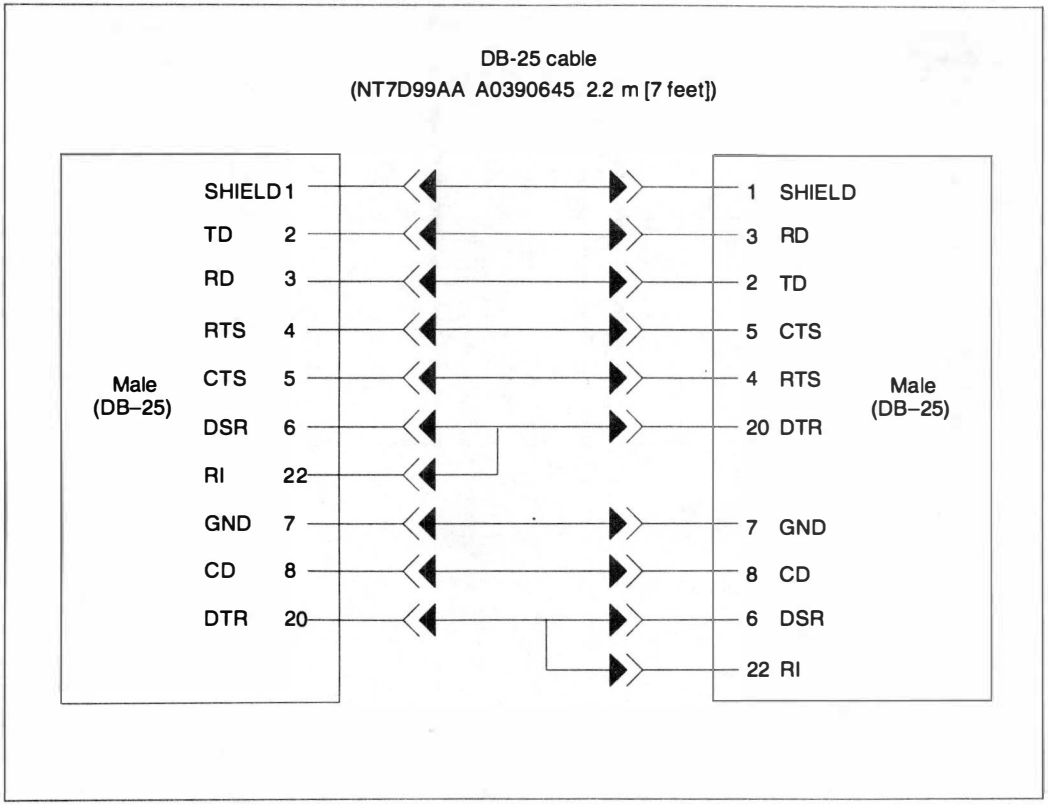
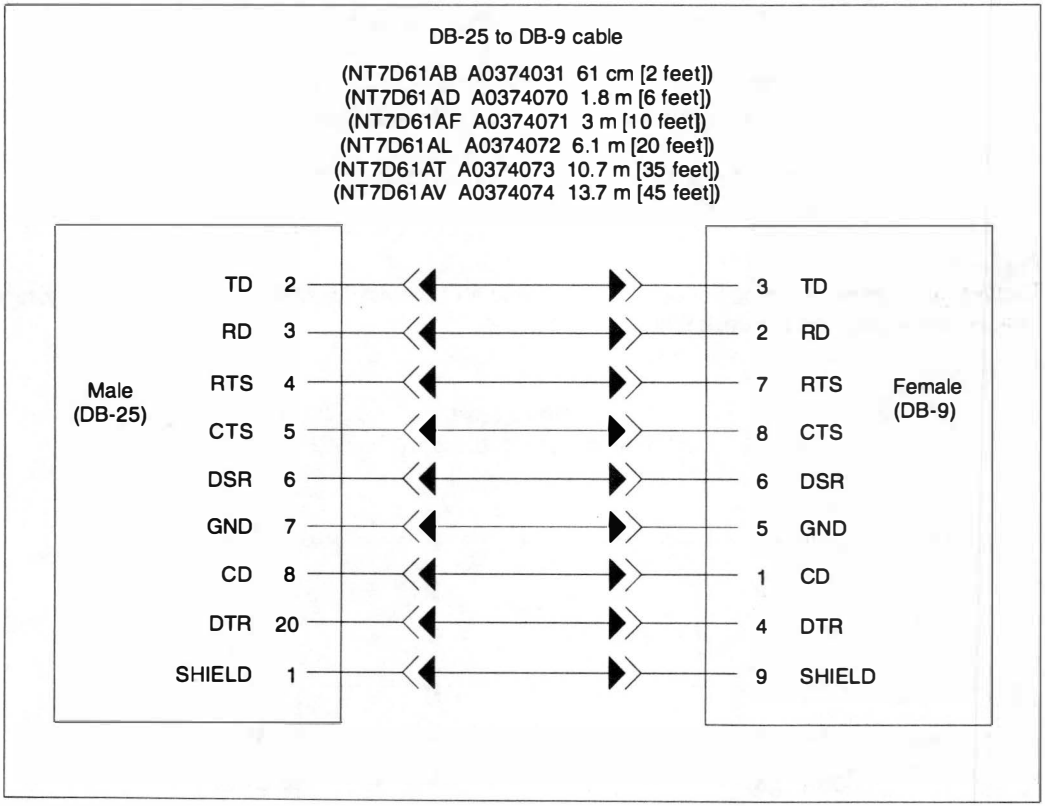


Figure 5-2
Cabling arrangement—modem connection cable NT7D61Ax for remote diagnostics



Limited-distance modems

The following modems are supported for remote diagnostics:

- Gandalf LDS 120E
- Develcon DS 511A

If you need more than 15 meters (50 feet) between the Meridian MAX and any peripheral, you need to use a limited-distance modem. The limited-distance modem must be self-powered. The added range depends on the modem you obtain. Limited-distance modems are recommended for use inside buildings only.

The following settings are used for a limited-distance modem:

- 9600 baud rate
- 8 bits, No-parity, 1 stop bit

Gandalf LDS 120E and Develcon DS 511A limited distance

The Gandalf LDS 120E and Develcon DS 511A limited distance modems allow you to extend the distance between the SNN's VME multiport cable or the IPE's four-port I/O cable and any connected peripheral by up to a nominal distance of eight km (five miles). Other limited distance modems may not provide the eight km (five miles) distance. It is your responsibility to check with the particular manufacturer.

The Gandalf LDS 120E and Develcon DS 511A limited distance modems can also be used for both the remote supervisor login and the network link. Refer to the "NAC Connectivity" section for more information.

For each peripheral requiring a limited distance modem, you require either the null modem cable NT7D99AA (SNN) or NT1R03HF (IPE) connected between the modem and the multiport cable connected at the Meridian MAX.

If the peripheral device connected to the second modem is a female DTE connection, the NT1R03Dx cable must be used to connect this modem to the peripheral device. If the peripheral device connected to the second modem is a male DTE connection, the NT1R03Ex cable must be used to connect this modem to the peripheral device.

Figure 5-3 illustrates the hardware configuration required to use the Gandalf LDS 120E modem with an SNN system. Figure 5-4 illustrates the hardware configuration required to use the Develcon DS 511A modem with an SNN system. Figure 5-5 illustrates the hardware configuration required

to use the Gandalf LDS 120E modem with an IPE system. Figure 5-6 illustrates the hardware configuration required to use the Develcon DS 511A modem with an IPE system.

The switch on the back of the modem should be set to the "normal" position.

Figure 5-3
Gandalf LDS 120E limited distance modem hardware configuration (SNN)

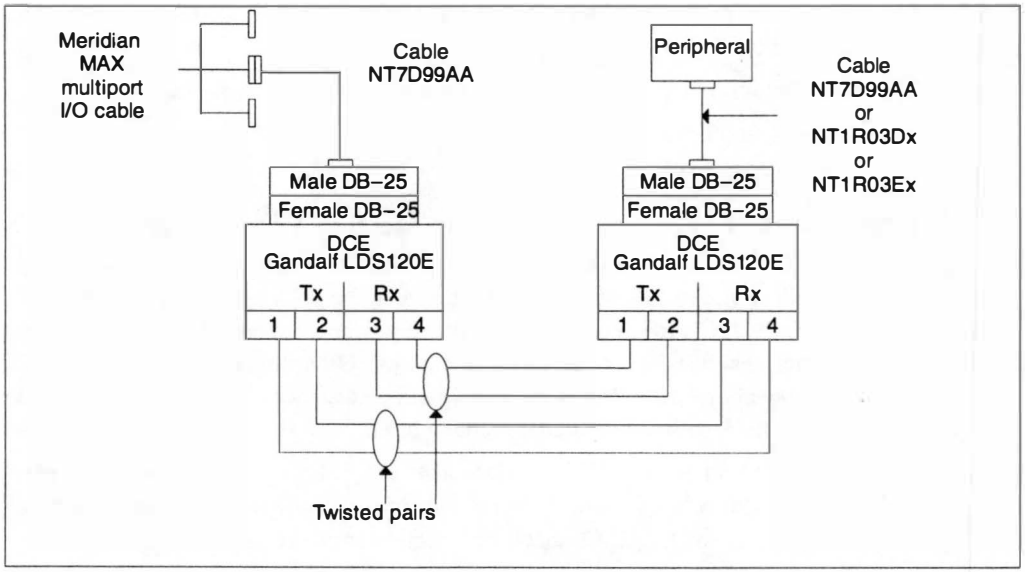


Figure 5-4
Develcon DS 511A limited distance modem hardware configuration (SNN)

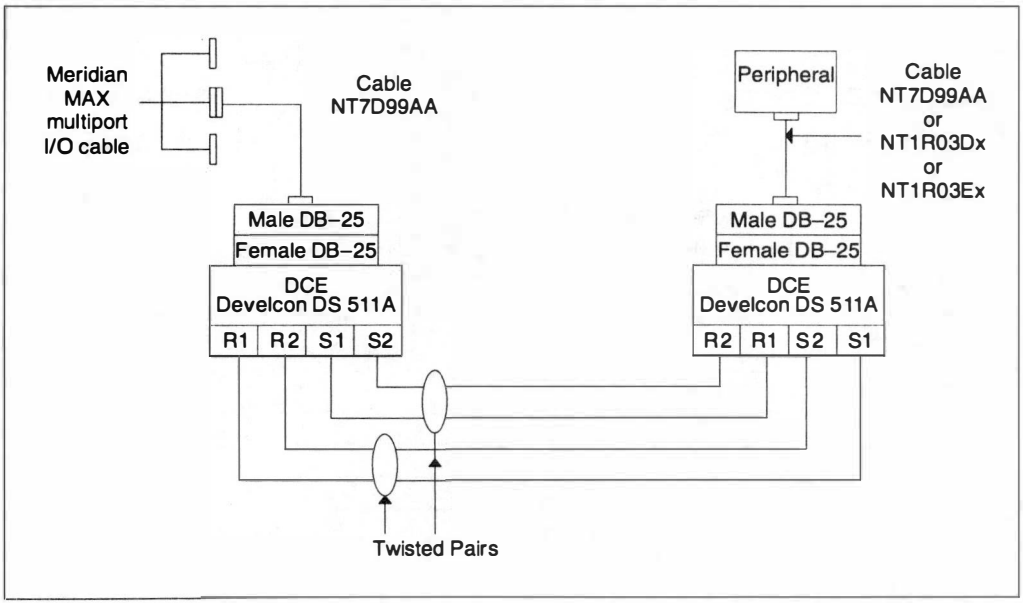


Figure 5-5
Gandalf LDS 120E limited distance modem hardware configuration (IPE)

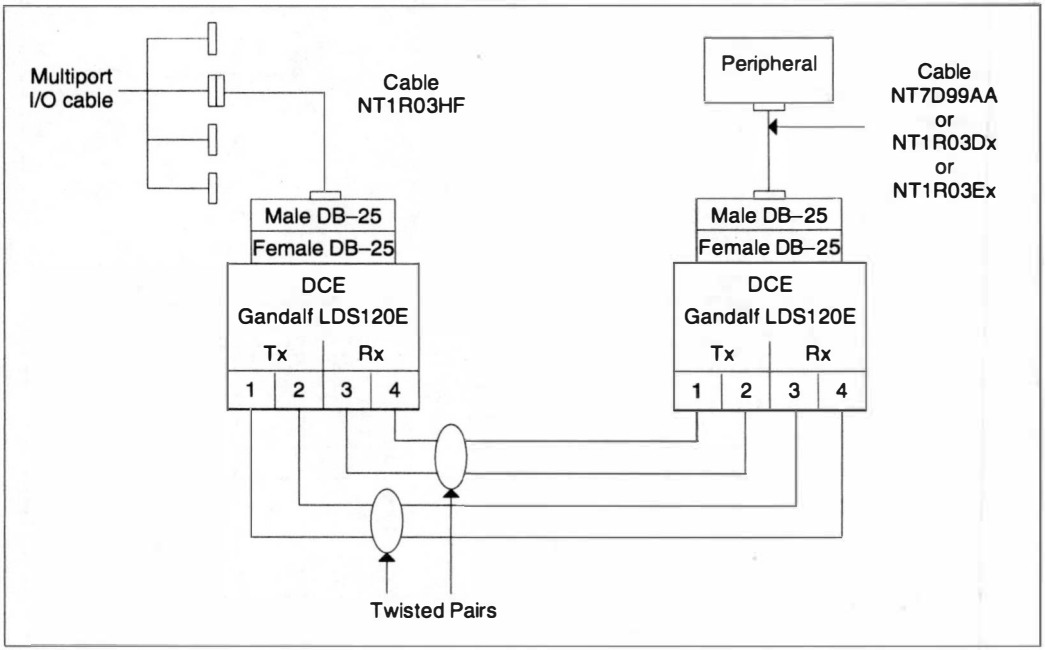
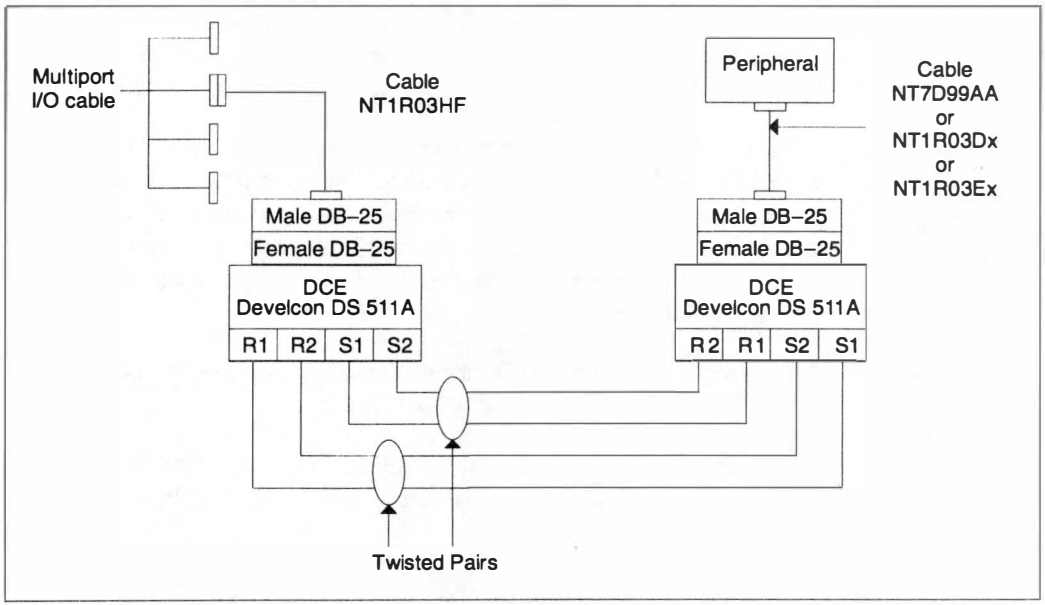


Figure 5-6
Develcon DS 511A limited distance modem hardware configuration (IPE)



Once the modems are connected, turn on the power and ensure the DCD lamp on each modem comes on. This lamp indicates that both Gandalf LDS 120E modems are active.

Please note that these instructions may vary depending on the equipment used at your site. Some peripherals connect to male DB-25 connectors and others connect to female DB-25 connectors. The creation of the straight-through DB-25 cable and the 2-pair twisted cable is the responsibility of the user and it is the user's responsibility to ensure that the correct connectors are attached.

Connect one end of the modem cable NT7D99AA to the VME multiport cable or one end of modem cable NT1R03HF to the four-port I/O cable port. Connect the other end to the female DB-25 socket on the first Gandalf LDS 120E or Develcon DS 511A modem.

The first Gandalf LDS 120E or Develcon DS 511A modem is connected to the second Gandalf LDS 120E or Develcon DS 511A modem with a 2-pair twisted cable of 24 AWG. This cable cannot exceed eight km (five miles).

For the Develcon DS 511A modem, the cover casing must be removed before connecting the 2-pair twisted cable.

Figures 5-3 and 5-4 illustrate the 2-pair twisted cable connections for the two modems with an SNN system. Figures 5-5 and 5-6 illustrate the 2-pair twisted cable connections for the two modems with an IPE system.

If the peripheral device is a female DTE connection, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the peripheral by using a straight-through NT1R03Dx cable. If the peripheral device is a male DTE connection, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the peripheral by using a straight-through NT1R03Ex cable.

If the peripheral device is DCE, the modem is connected to the peripheral device by the null modem cable NT7D99AA.

If the peripheral device is DTE, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the peripheral by using a straight-through NT1R03Dx cable.

A male DB-25 connector is attached to the second Gandalf LDS 120E modem or Develcon DS 511A modem's female DB-25 socket, and the appropriate DB-25 connector is attached to the peripheral.

The following settings are necessary for the Gandalf LDS 120E modem to be used:

- Termination: T (330 OHM)
- Internal Jumper Plugs: 4-wire mode, J13-J14 connected and J15-J16 connected
- Front Panel Push-button Switches: ALL OUT - TP - RL - DL - AL

Table 5-5
LDS 120E external DIP switch settings for point-to-point, full-duplex

Switch number	Switch setting
1	OPEN (OFF)
2	CLOSED (ON)
3	CLOSED (ON)
4	CLOSED (ON)
5	CLOSED (ON)
6	NOT USED

Table 5-6
LDS 120E internal DIP switch settings for point-to-point, full-duplex

Switch number	Switch setting
1	CLOSED (ON)
2	CLOSED (ON)
3	CLOSED (ON)
4	CLOSED (ON)
5	CLOSED (ON)
6	CLOSED (ON)

Note: Set the modem I/O port of the Meridian MAX - IPE to direct (9600 baud) through the system console.

Dial-up modems overview

Dial-up modems are used for the following functions:

- Remote diagnostics
- Dial-up supervisor
- Network link
- Remote supervisor login feature specific to the NAC option. (See *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Remote activities" chapter, for more information on this feature.)

The same brand of dial-up modem must be used for either purpose. Ensure that each modem connected to the network is properly set up for its purpose.

This section recommends modems that have been tested with Meridian MAX when configured for remote diagnostics, supervisor dial-up, network link and for the remote supervisor login feature.

> ***Note:*** Dial-up printers are not supported through the dial-up connection.

Remote diagnostic modems

The remote diagnostic allows Nortel to diagnose your Meridian MAX system whenever you experience difficulties. Often the solutions can be sent back through this link directly to your system. Consult your service contract for more details about the remote diagnostic service.

The following modems are supported for remote diagnostics:

- NetComm SmartModem M7F
- Racal VI2422PA
- UDS 2440
- UDS EC224A/D

For the remote diagnostic modems, the following standards must be met:

- 1200 or 2400 baud rate
- auto-answer capability
- accessible from the public switch telephone network

The cable between the remote terminal and the diagnostic modem is a straight-through DB-25 serial cable NT1R03Dx (male to male) or NT1R03Ex (male to female). The type of cable used depends on the configuration defined by the user.

Figure 5-7 illustrates this connection for a Meridian MAX running on an SNN system. Figure 5-8 illustrates this connection for a Meridian MAX running on an IPE system.

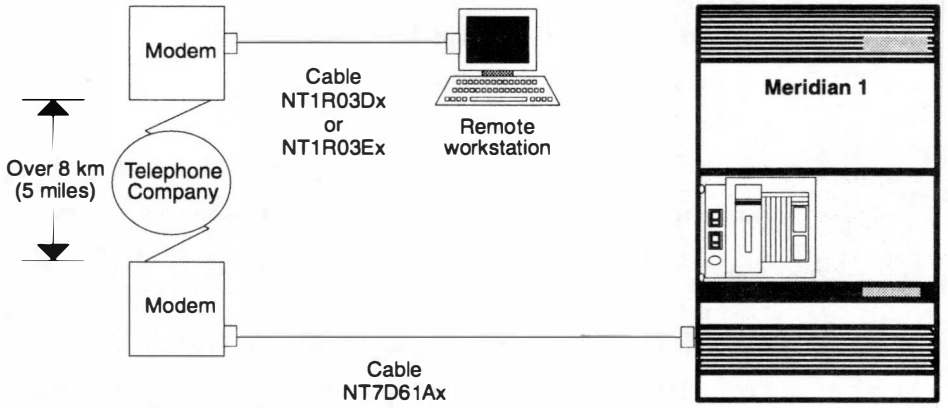
For an SNN system, the cable between Meridian MAX I/O panel and the remote diagnostic modem is a DB-25 (male) to DB-9 (female) modem cable, NT7D61Ax. This cable is connected to the I/O panel at Card 1, Conn 2.

For an IPE system, the cable between Meridian MAX multiport cable, NT1R03AA or NT1R03BA, and the remote diagnostic modem is a straight-through DB-25 (male) to DB-25 (male) modem cable, NT1R03HF. This cable is connected to the I/O panel at Port 2.

The modem settings at the Meridian MAX end must be done before connecting the modem to the Meridian MAX. This is accomplished by first connecting the modem to one of the workstations. Refer to your specific

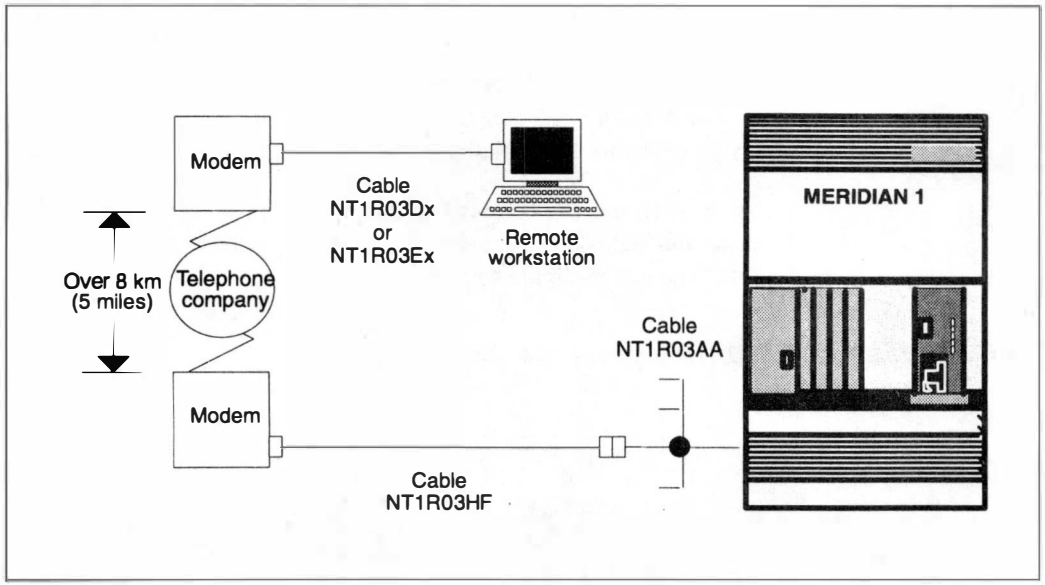
modem setups. Once this is done, disconnect the modem and reconnect it to the Meridian MAX.

Figure 5-7
Connecting the remote diagnostics workstation with a Meridian MAX remote diagnostic modem (SNN)



Note: The NT7D61Ax cable connects to the generic I/O panel within the AEM.

Figure 5-8
Connecting the remote dial-up workstation with a Meridian MAX remote diagnostic modem (IPE)



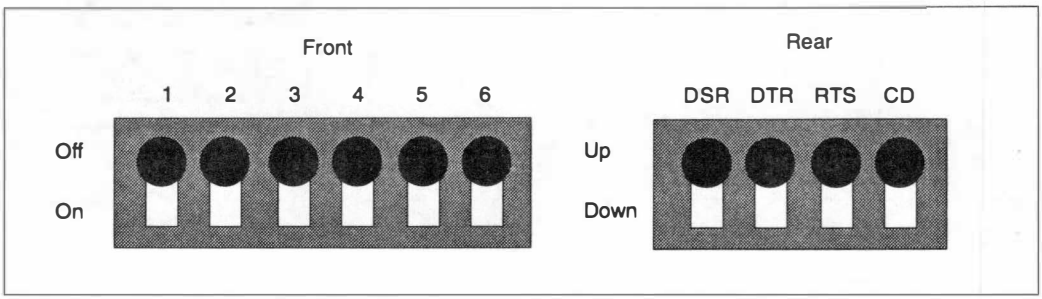
NetComm SmartModem M7F

Figure 5-7 (SNN) and Figure 5-8 (IPE) illustrate the connection between the Meridian MAX remote diagnostics port and a remote workstation using the NetComm SmartModem M7F.

To properly set up the NetComm modem for remote diagnostics, ensure the modem's switch settings match those shown in Figure 5-9. The same switch settings should be used at both the remote end and the Meridian MAX end.

> *Note:* There are two buttons located on the front panel of the modem: Mode and Talk/Data. For use with the NetComm modem, the Talk/Data button should be pressed.

Figure 5-9
NetComm SmartModem M7F modem switch settings



Complete the steps in Procedure 5-1 to configure the NetComm modem for remote diagnostics.

Procedure 5-1
Configuring the NetComm SmartModem M7F for remote diagnostics

Step	Configuration action and system response
1	Connect a workstation to the modem with a straight through NT1R03Dx or NT1R03Ex cable. Set the workstation speed to 2400 baud.
2	Connect the workstation and the modem to their power sources.
3	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
4	Enter **atz** followed by **{RETURN}**.
	OK
5	Enter **at&f** followed by **{RETURN}**.
	OK
6	Enter **ats0=1** followed by **{RETURN}**.
	OK
7	Enter **at&d0** followed by **{RETURN}**.
	OK
8	Enter **at&c1** followed by **{RETURN}**.
	OK
9	Enter **at\n3** followed by **{RETURN}**.
	OK
10	Enter **at\q3** followed by **{RETURN}**.
	OK
11	Enter **at&w** followed by **{RETURN}**.
	OK

—continued—

Procedure 5-1 (continued)
Configuring the NetComm SmartModem M7F for remote diagnostics

Step	Configuration action and system response
12	Power down the workstation and the modem.
13	Disconnect the workstation from the modem.
14	For an SNN system, connect the modem directly to the Meridian MAX I/O panel using an NT7D61Ax modem cable. For an IPE system, connect the modem to the Meridian MAX multiport cable, NT1R03AA or NT1R03BA, using an NT1R03HF modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
15	Power up the modem. If your Meridian MAX system is powered up and fully functional, you should see the LED labelled "TR" light up on the front panel of the modem. If the "TR" LED does not light-up, retry this procedure. If the light still does not appear, contact your Nortel representative.

—end—

Racal VI2422PA

If you use a Racal VI2422PA modem at one end of the line you must use the Racal VI2422PA modem at the other end as well. Both modems must be set to the same speed.

Figures 5-7 (SNN) and 5-8 (IPE) illustrate the connection between the Meridian MAX remote diagnostics port and a remote workstation using a Racal VI2422PA modem.

Complete the steps in Procedure 5-2 to configure the Racal modem for remote diagnostics.

For more information on the Racal modem and its operation, refer to the Racal VI2422PA Modem User's Guide that accompanies the modem.

Procedure 5-2
Configuring the Racal VI422PA modem for remote diagnostics

Step	Configuration action and system response
1	Connect a workstation with data format 8N1 and speed 2400 to the modem with a straight through NT1 R03Dx or NT1 R03Ex cable.
2	Connect the workstation and the modem to their power sources.
3	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
4	Enter **at&f** followed by **{RETURN}**.
	OK
5	Enter **atq0** followed by **{RETURN}**.
	OK

—continued—

Procedure 5-2 (continued)
Configuring the Racal VI422PA modem for remote diagnostics

Step	Configuration action and system response
6	Enter **atv1** followed by **{RETURN}**.
	OK
7	Enter **atx1** followed by **{RETURN}**.
	OK
8	Enter **ats0=1** followed by **{RETURN}**.
	OK
9	Enter **at&c1** followed by **{RETURN}**.
	OK
10	Enter **at&d2** followed by **{RETURN}**.
	OK
11	Enter **ats2=128** followed by **{RETURN}**.
	OK
12	Enter **ate0** followed by **{RETURN}**.
	OK
13	The following command does not appear on the screen when you enter it:
	Enter **at&w** followed by **{RETURN}**.
	OK
14	Power down the workstation and the modem.
15	Disconnect the workstation from the modem.

—continued—

Procedure 5-2 (continued)
Configuring the Racal VI422PA modem for remote diagnostics

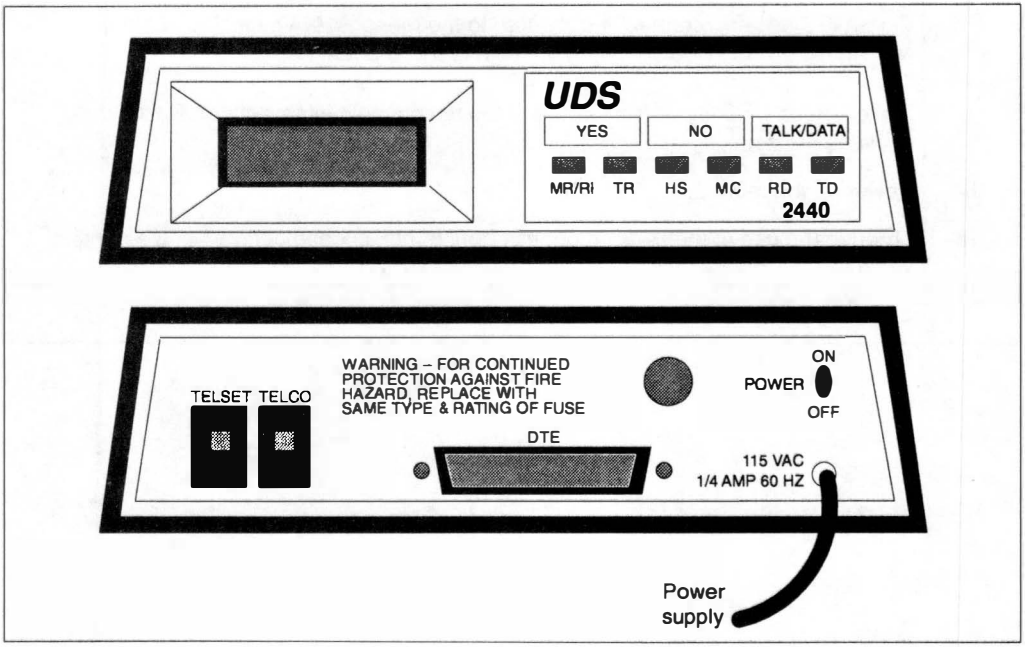
Step	Configuration action and system response
16	For an SNN system, connect the modem directly to the Meridian MAX I/O panel using an NT7D61Ax modem cable. For an IPE system, connect the modem to the Meridian MAX multiport cable, NT1R03AA or NT1R03BA, using an NT1R03HF modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
17	Power up the modem.
18	Through the use of the Racal modem's front panel, choose option 1 and set the value to **1**. Choose option 13 and set the value to **2**.

—end—

UDS 2440

Figure 5-10 shows the front and rear view of the UDS 2440 modem. This modem connects to the SNN's multiport cable using a NT7D99AA cable and the IPE's four-port I/O cable using the NT1R03HF cable.

Figure 5-10
UDS 2440 modem—front and rear view



The UDS 2440 modem does not contain any internal switch settings. The configuration is done via the front panel buttons on the modem.

To configure the UDS 2440 modem for remote diagnostics using the modem's front panel buttons, perform Procedure 5-3.

Procedure 5-3
Configuring the UDS 2440 modem via the front panel for remote diagnostics

Step	Configuration action and system response
1	Connect the modem to a power source next to the Meridian MAX system. Ensure that the modem is not connected to the Meridian MAX system at this point.
2	Position the power switch on the rear panel of the modem to ON. Press either the YES or NO button on the front of the modem panel for each response appearing in the LCD window. If the wrong button is pressed, press the {TALK/DATA} button followed by the NO button. This action returns you to Step 2. The LCD on the front panel displays the following: ####–## (For example, 3050–5C, appears for two seconds) OFFLINE
3	Press **NO**. DIAL?
4	Press **NO**. TEST?
5	Press **NO**. AUTO ANS?
6	Press **NO**. DATA OPTS?
7	Press **NO**. OPTIONS?

—continued—

Procedure 5-3 (continued)
Configuring the UDS 2440 modem via the front panel for remote diagnostics

Step	Configuration action and system response
8	Press **YES**.
	RESET?
9	Press **YES**.
	LOADING (appears for one second)
	RESET?
10	Press **NO**.
	FACTORY?
11	Press **YES**.
	FACTORY 0?
12	Press **YES**.
	LOADING (appears for one second)
	FACTORY?
13	Press **NO**.
	SPKR OPTS?
14	Press **NO**.
	TELE OPTS?
15	Press **NO**.
	PIN OPTS?
16	Press **NO**.
	MSG OPTS

—continued—

Procedure 5-3 (continued)
Configuring the UDS 2440 modem via the front panel for remote diagnostics

Step	Configuration action and system response
17	Press **NO**.
	SECURITY?
18	Press **NO**.
	DISC OPTS?
19	Press **NO**.
	SREGS?
20	Press **NO**.
	OPTIONS?
21	Press **NO**.
	PROTOCOL?
22	Press **NO**.
	If SAVE? appears go to Step 23, if not go to Step 24.
23	Press **YES**.
	SAVING (appears for two seconds)
24	OFFLINE
25	Press **NO**.
	DIAL?
26	Press **NO**.
	TEST?
27	Press **NO**.
	AUTO ANS?

—continued—

Procedure 5-3 (continued)
Configuring the UDS 2440 modem via the front panel for remote diagnostics

Step	Configuration action and system response
28	Press **YES**.
	AUTO ANS E
29	Press **YES**.
	RINGS?
30	Press **YES**.
	RING = 001
31	Press **YES**.
	AUTO ANS?
32	Press **NO**.
	DATA OPTS?
33	Press **NO**.
	OPTIONS?
34	Press **YES**.
	RESET?
35	Press **NO**.
	FACTORY?
36	Press **NO**.
	SPKR OPTS?
37	Press **NO**.
	TELE OPTS?

—continued—

Procedure 5-3 (continued)
Configuring the UDS 2440 modem via the front panel for remote diagnostics

Step	Configuration action and system response
38	Press **NO**.
	PIN OPTS?
39	Press **YES**.
	DTR OPTS?
40	Press **YES**.
	DTR OPTS 0
41	Press **NO**.
	dtr opt 1
42	Press **NO**.
	dtr opt 2
43	Press **NO**.
	dtr opt 3
44	Press **YES**.
	DTR OPTS?
45	Press **NO**.
	DSR OPTS?
46	Press **YES**.
	DSR FORCED
47	Press **NO**.
	DSR normal

—continued—

Procedure 5-3 (continued)
Configuring the UDS 2440 modem via the front panel for remote diagnostics

Step	Configuration action and system response
48	Press **YES**. DSR OPTS?
49	Press **NO**. CD OPTS?
50	Press **YES**. CD FORCED
51	Press **NO**. lo at disc
52	Press **NO**. cd normal
53	Press **YES**. CD OPTS?
54	Press **NO**. CTS OPTS?
55	Press **NO**. P 21 OPTS?
56	Press **NO**. P 23 OPTS?
57	Press **NO**. P 25 OPTS?

—continued—

Procedure 5-3 (continued)
Configuring the UDS 2440 modem via the front panel for remote diagnostics

Step	Configuration action and system response
58	Press **NO**. PIN OPTS?
59	Press **NO**. MSG OPTS
60	Press **NO**. SECURITY?
61	Press **NO**. DISC OPTS?
62	Press **NO**. SREGS?
63	Press **NO**. OPTIONS?
64	Press **NO**. PROTOCOL?
65	Press **NO**. SAVE?
66	Press **YES**. SAVING (appears for two seconds) OFFLINE

—continued—

Procedure 5-3 (continued)
Configuring the UDS 2440 modem via the front panel for remote diagnostics

Step	Configuration action and system response
67	Connect the modem directly to the Meridian MAX I/O panel using an NT7D61Ax modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector. If your Meridian MAX system is powered up and fully functional, you should see the LED labelled "TR" light up on the front panel of the modem. If the "TR" LED does not light-up, retry this procedure. If the light still does not appear, contact your Nortel representative.

—end—

If you have a workstation, you can use an alternative method to set up the UDS 2440 modem. To properly configure the modem, perform the steps in Procedure 5-4.

Procedure 5-4
Alternative procedure for configuring the UDS 2440 modem via workstation for remote diagnostics

Step	Configuration action and system response
1	Connect a workstation to the modem with a straight through NT1 R03Dx or NT1 R03Ex cable.
2	Connect the workstation and the modem to their power sources.
3	Power up the workstation and the modem.
4	Set the workstation baud rate to 2400. Refer to the "Workstation" section, "Video display terminal (VDT) workstation" subsection, for more information. Enter the following commands on the workstation keyboard.
5	Enter **atz** followed by **{RETURN}**. OK

—continued—

Procedure 5-4 (continued)
Alternative procedure for configuring the UDS 2440 modem via workstation for remote diagnostics

Step	Configuration action and system response
6	Enter **at&f** followed by **{RETURN}**. OK
7	Enter **ats0=1** followed by **{RETURN}**. OK
8	Enter **at&d3** followed by **{RETURN}**. OK
9	Enter **at&s1** followed by **{RETURN}**. OK
10	Enter **at&c1** followed by **{RETURN}**. OK
11	Enter **at&w** followed by **{RETURN}**. OK
12	Power down the workstation and the modem.
13	Disconnect the workstation from the modem.
14	For an SNN system, connect the modem directly to the Meridian MAX I/O panel using an NT7D61Ax modem cable. For an IPE system, connect the modem to the Meridian MAX multiport cable, NT1R03AA or NT1R03BA, using an NT1R03HF modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

—continued—

Procedure 5-4 (continued)
Alternative procedure for configuring the UDS 2440 modem via workstation for remote diagnostics

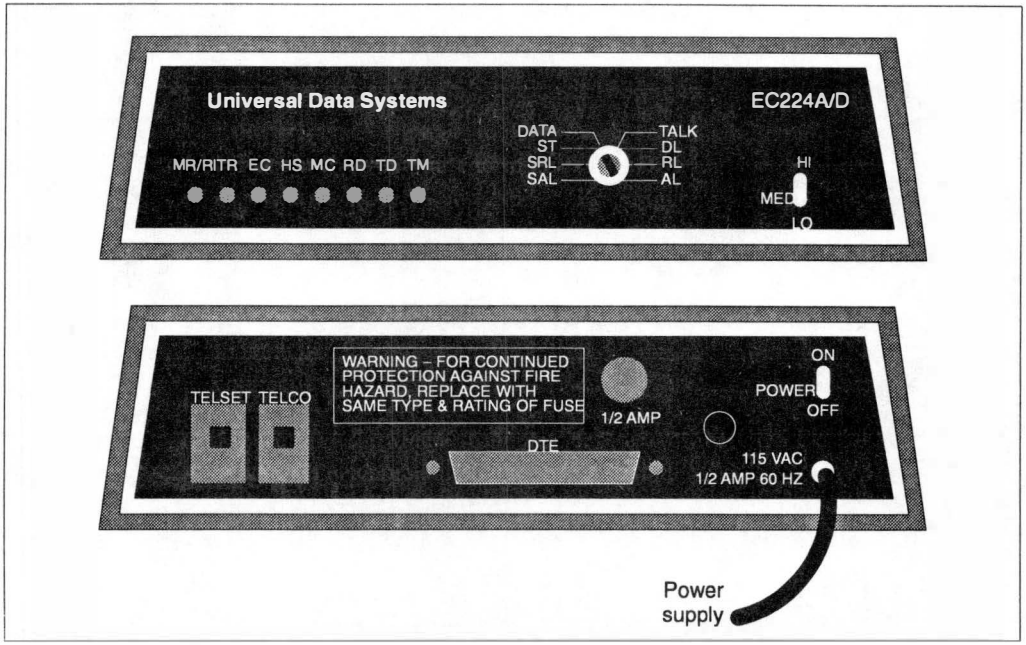
Step	Configuration action and system response
15	Power up the modem. If your Meridian MAX system is powered up and fully functional, you should see the LED labelled "TR" light up on the front panel of the modem. If the "TR" LED does not light up, retry this procedure. If the light still does not appear, contact your MAX representative.

—end—

UDS EC224A/D 2400

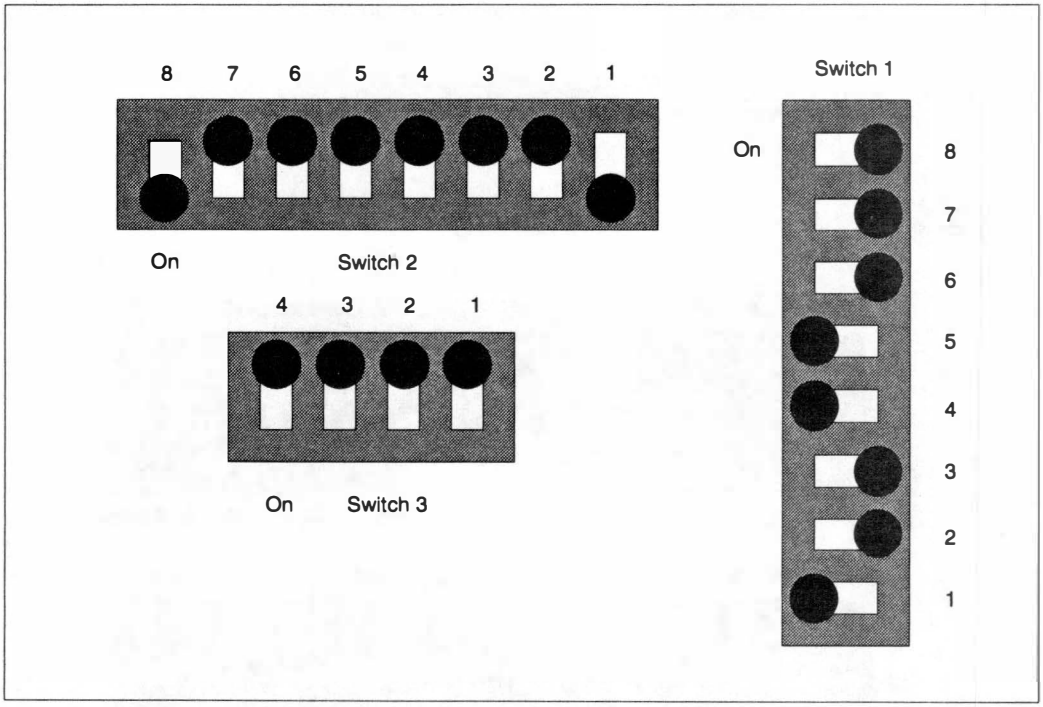
Figure 5-11 shows the front and rear view of the UDS EC224A/D 2400 modem. The cable connecting the Meridian MAX SNN's VME multiport cable and the UDS EC224A/D 2400 modem is the modem cable NT7D61Ax. The cable connecting the Meridian MAX - IPE's four-port I/O cable and the UDS EC224A/D 2400 modem is the modem cable NT1R03HF.

Figure 5-11
UDS EC224A/D 2400 modem—front and rear view



Remove the modem's cover and position the modem so that the front face plate is facing you. In the front left corner of the modem are three switches. Make sure the switch settings match those shown in Figure 5-12.

Figure 5-12
UDS EC224A/D 2400 remote diagnostics modem switch settings



Dial-up supervisor modems

The following modems are supported modems for dial-up supervisor:

- NetComm SmartModem M7F
- Racal VI2422PA
- UDS 2440
- UDS EC224A/D
- Ven-Tel 9600 Plus
- Ven-Tel 2400 Plus II

The cable between the supervisor workstation and the modem is a straight-through DB-25 serial cable NT1R03Dx (male to male) or NT1R03Ex (male to female) cable. But this depends on the configuration defined by the user. The cable between a PC running Reflection software or the Meridian Terminal Emulator (MTE) and the modem is a DB-25 to DB-9 serial cable (male to female) A0268901.

The cable between the Meridian MAX SNN and the dial-up supervisor modem is a modem cable NT7D99AA. Figure 5-13 illustrates this connection.

The cable between the Meridian MAX - IPE and the dial-up supervisor modem is a modem cable NT1R03HF. Figure 5-14 illustrates this connection.

The settings for modems are found in Table 5-3. Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. Before dialing, at the remote location, the user must configure the modem as shown in Table 5-3.

Figure 5-13
Connecting the remote dial-up workstation with a Meridian MAX dial-up supervisor modem (SNN)

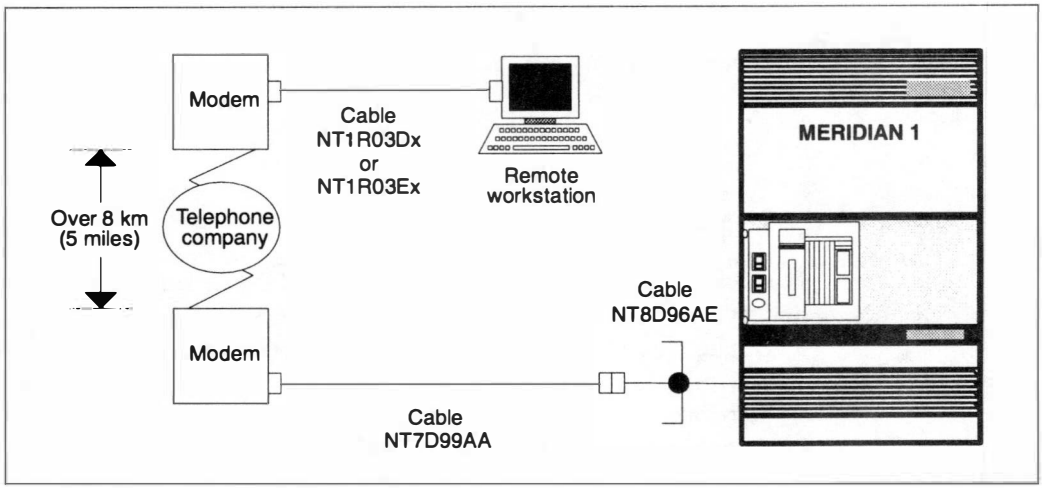
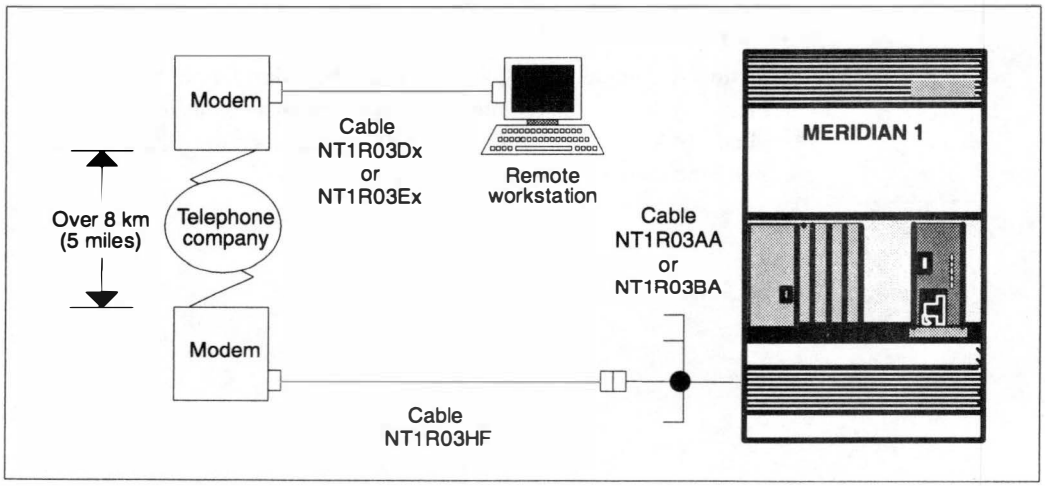


Figure 5-14
Connecting the remote dial-up workstation with a Meridian MAX dial-up supervisor modem (IPE)



NetComm SmartModem M7F

Figures 5-13 (SNN) and 5-14 (IPE) illustrate the connection between the Meridian MAX dial-up supervisor port and a remote workstation using the NetComm SmartModem M7F.

To properly set up the NetComm modem for dial-up supervisor, ensure the modem's switch settings match those shown in Figure 5-15. The same switch settings should be used at both the remote end and the Meridian MAX end.

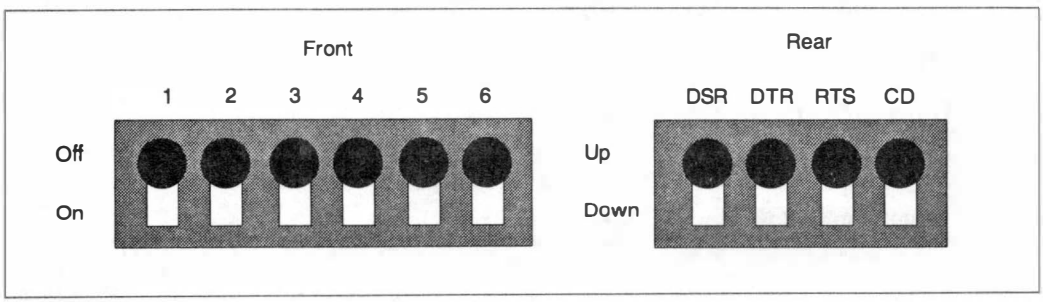
Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end.

The cable connecting the Meridian MAX SNN's VME multiport cable and the NetComm SmartModem M7F is the modem cable NT7D99AA.

The cable connecting the Meridian MAX - IPE's VME multiport cable and the NetComm SmartModem M7F is the modem cable NT1R03HF.

Note: There are two buttons located on the front panel of the modem: Mode and Talk/Data. For use with the NetComm modem, the Talk/Data button should be pressed.

Figure 5-15
NetComm SmartModem M7F modem switch settings



Complete the steps in Procedure 5-5 to configure the NetComm modem for remote diagnostics.

Procedure 5-5
Configuring the NetComm SmartModem M7F for dial-up supervisor—remote end

Step	Configuration action and system response
1	Connect a workstation to the modem with a straight through NT1R03Dx or NT1R03Ex cable.
2	Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
3	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
4	Enter **atz** followed by **{RETURN}**.
	OK
5	Enter **at&f** followed by **{RETURN}**.
	OK
6	Enter **ats0=1** followed by **{RETURN}**.
	OK
7	Enter **at&d0** followed by **{RETURN}**.
	OK
8	Enter **at&c1** followed by **{RETURN}**.
	OK
9	Enter **at\n3** followed by **{RETURN}**.
	OK
10	Enter **at\q3** followed by **{RETURN}**.
	OK

—continued—

Procedure 5-5 (continued)
Configuring the NetComm SmartModem M7F for dial-up supervisor—remote end

Step	Configuration action and system response
11	Enter **at&w** followed by **{RETURN}**. OK
12	Use the Hayes AT command "atdt####" for touch-tone dialing and "atdp####" for pulse dialing to dial the required number. (where #### is the telephone number of the NAC modem)

—end—

Racal VI2422PA

Figure 5-13 illustrates the connection between the Meridian MAX port configured for dial-up supervisor and a remote dial-up workstation using a Racal VI2422PA modem.

Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. The cable connecting the Meridian MAX SNN's VME multiport cable and the Racal VI2422PA modem is the modem cable NT7D99AA. The cable connecting the Meridian MAX - IPE's four-port I/O cable and the Racal VI2422PA modem is the modem cable NT1R03HF.

The Racal modem can be used for the dial-up supervisor, the remote supervisor login, and as the modem for the network link. Regardless of the way it is used, the modem's setup is identical:

- connect the Racal modem to its power source
- connect the Racal modem to the Meridian MAX through the use of the NT9D9007 cable
- connect the Racal modem's RJ-45 TELCO socket to the telephone socket using the cable provided by Racal.
- record the port that is assigned to the Racal mode
- power up the RACAL modem
- set Option 1 to "1"
- set Option 13 to "2"

If you use a Racal modem at one end of the line you must use the Racal modem at the other end as well. For example, a single network link could have a Racal modem at the NAC site and a Racal modem at the nodal Meridian MAX site. Both modems must be set to the same speed.

Complete the steps in Procedure 5-6 to configure the Racal VI2422PA modem at the remote location for dial-up supervisor.

For more information on the Racal modem and its operation, refer to the *Racal VI2422PA Modem User's Guide* that accompanies the modem.

Procedure 5-6
Configuring the Racal VI2422PA dial-up supervisor modem—remote end

Step	Configuration action and system response
1	Connect a workstation with data format 8N1 and speed 2400 to the modem with a straight through NT1R03Dx or NT1R03Ex cable.
2	Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
3	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
4	Enter **at&f** followed by **{RETURN}**. OK
5	Enter **at*f0** followed by **{RETURN}**. OK
6	Enter **ats0=1** followed by **{RETURN}**. OK
7	Enter **atq1** followed by **{RETURN}**. OK
8	Enter **ate0** followed by **{RETURN}**. OK
9	The following command will not appear on the screen when you enter it: Enter **at&w** followed by **{RETURN}**. OK
10	Through the use of the Racal modem's front panel, choose option 1 and set the value to **1**. Choose option 13 and set the value to **2**.
11	Use the Hayes AT command "atdt####" for touch-tone dialing and "atdp####" for pulse dialing to dial the required number. (where #### is the telephone number of the Meridian MAX modem)

UDS 2440

Figure 5-10 shows the front and rear view of the UDS 2440 dial-up supervisor modem.

The UDS 2440 modem does not contain any internal switch settings. Complete Procedure 5-7 to configure the UDS 2440 modem for dial-up supervisor.

Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end.

The cable connecting the Meridian MAX SNN's VME multiport cable and the UDS 2440 modem is the modem cable NT7D99AA.

The cable connecting the Meridian MAX - IPE's VME multiport cable and the UDS 2440 modem is the modem cable NT1R03HF.

Procedure 5-7
Configuring the UDS 2440 modem for dial-up supervisor—remote end

Step	Configuration action and system response
1	Connect a workstation to the modem with a straight through NT1 R03Dx or NT1 R03Ex cable. Set the workstation speed to 2400 baud.
2	Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
3	Power up the workstation and the modem.
4	Enter the following commands on the workstation keyboard, pressing **{ENTER}** after each command.
5	Enter **atz** followed by **{RETURN}**.
	OK
6	Enter **at&f** followed by **{RETURN}**.
	OK

—continued—

Procedure 5-7 (continued)
Configuring the UDS 2440 modem for dial-up supervisor—remote end

Step	Configuration action and system response
7	Enter **ats0=1** followed by **{RETURN}**. OK
8	Enter **at&d3** followed by **{RETURN}**. OK
9	Enter **at&s1** followed by **{RETURN}**. OK
10	Enter **at&c1** followed by **{RETURN}**. OK
11	Enter **at&w** followed by **{RETURN}**. OK
12	Use the Hayes AT command "atdt####" for touch-tone dialing and "atdp####" for pulse dialing to dial the required number. (where #### is the telephone number of the NAC modem)

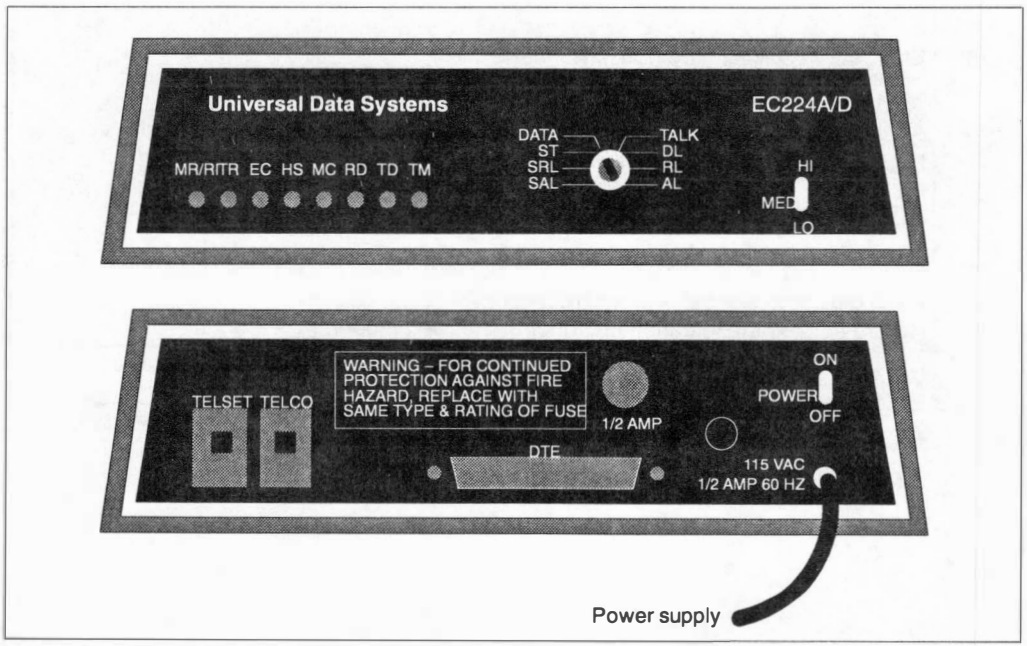
—end—

UDS EC224A/D 2400

Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. The cable connecting the Meridian MAX SNN's VME multiport cable and the UDS EC224A/D 2400 modem is the modem cable NT7D99AA. The cable connecting the Meridian MAX - IPE's four-port I/O cable and the UDS EC224A/D 2400 modem is the modem cable NT1R03HF.

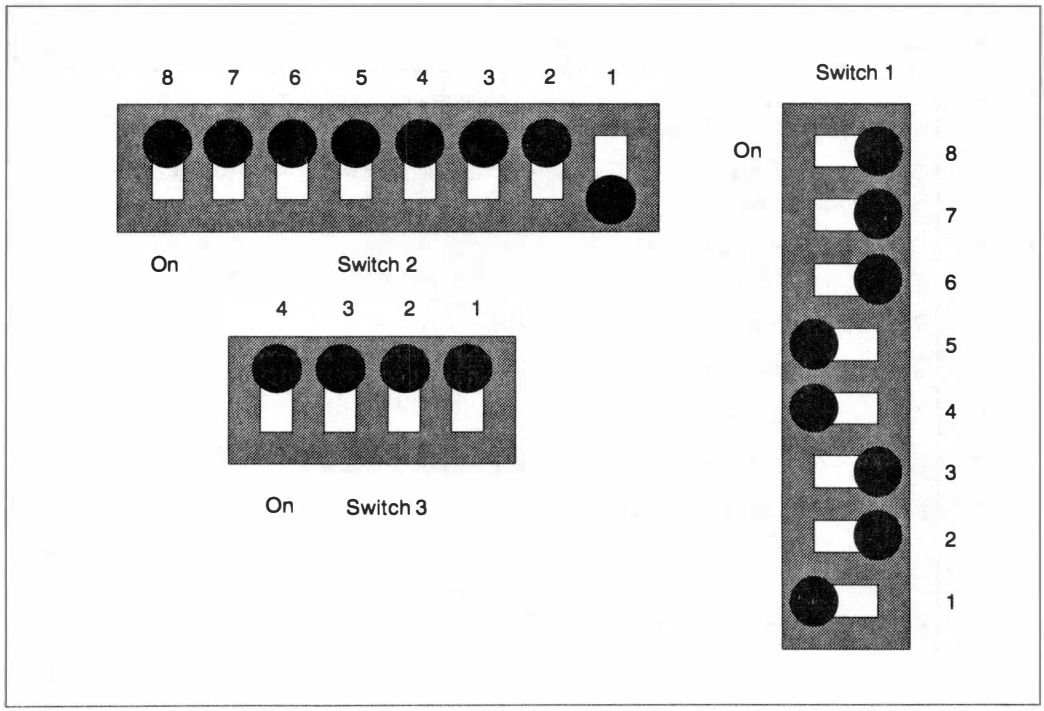
Figure 5-16 shows the remote dial-up supervisor workstation modem's front and rear view.

Figure 5-16
UDS EC224A/D 2400 modem—front and rear view



Remove the modem's cover and position the modem so that the front face plate is facing you. In the front left corner of the modem are three switches. Make sure the switch settings match those shown in Figure 5-17.

Figure 5-17
UDS EC224A/D 2400 remote dial-up supervisor modem switch settings



Complete the steps in Procedure 5-8 to configure the UDS EC224A/D 2400 modem at the remote location for dial-up supervisor.

Procedure 5-8
Configuring the UDS EC224A/D 2400 dial-up supervisor modem—remote end

Step	Configuration action and system response
1	Open the modem and ensure that the switch settings are correct. Compare them with correct settings in Figure 5-17.
2	Connect a workstation to the modem with a straight through NT1 R03Dx or NT1 R03Ex cable.
3	Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
4	Power up the workstation and the modem.
5	Set front panel toggle switch to "HI."
6	Set front panel rotary switch to DATA
7	Enter the following commands on the workstation keyboard.
8	Enter **at&f** followed by **{RETURN}**.
	OK
9	Enter **ats2=128** followed by **{RETURN}**.
	OK
10	Enter **at&c1** followed by **{RETURN}**.
	OK
11	Enter **at&d2** followed by **{RETURN}**.
	OK
12	Enter **atv1** followed by **{RETURN}**.
	OK
13	Enter **atx1** followed by **{RETURN}**.
	OK

—continued—

Procedure 5-8 (continued)
Configuring the UDS EC224A/D 2400 dial-up supervisor modem—remote end

Step	Configuration action and system response
14	Enter **ats0=1** followed by **{RETURN}**.
	OK
15	Enter **atq0** followed by **{RETURN}**.
	OK
16	Enter **ate0** followed by **{RETURN}**.
	OK
	The following command will not appear on the screen when you enter it:
17	Enter **at&w** followed by **{RETURN}**.
	OK
18	Use the Hayes AT command "atdt####" for touch-tone dialing and "atdp####" for pulse dialing to dial the required number. (where #### is the telephone number of the Meridian MAX modem)

—end—

Ven-Tel 2400 Plus II

Figure 5-18 and Figure 5-19 show the front and rear view of the Ven-Tel 2400 Plus II modem. Figure 5-20 shows how to open the modem. Figure 5-21 shows the switch locations.

Figure 5-18
Ven-Tel 2400 Plus II modem—front view

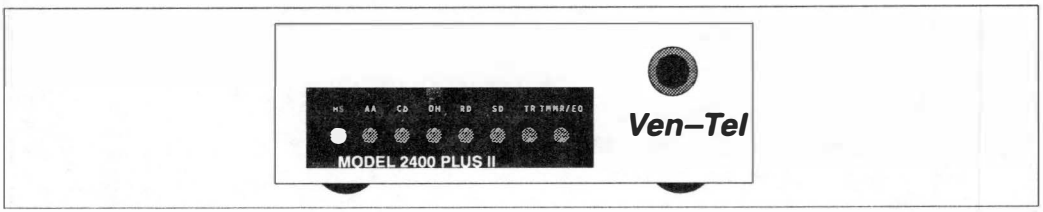


Figure 5-19
Ven-Tel 2400 Plus II modem—rear view

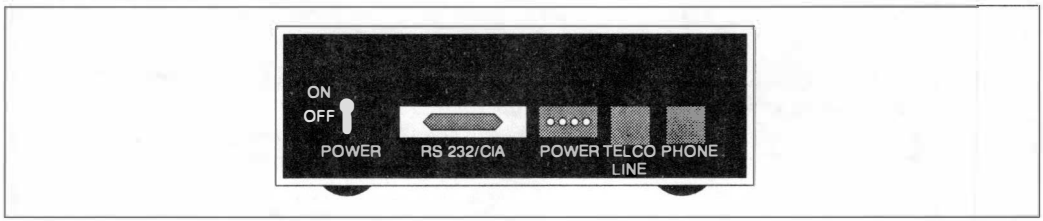


Figure 5-20
Ven-Tel 2400 Plus II modem—opening the modem

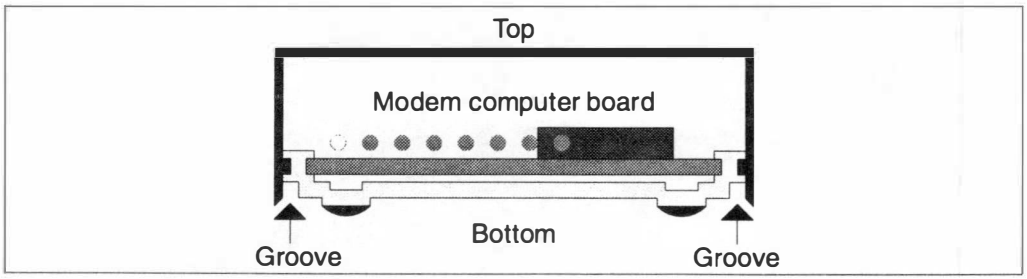
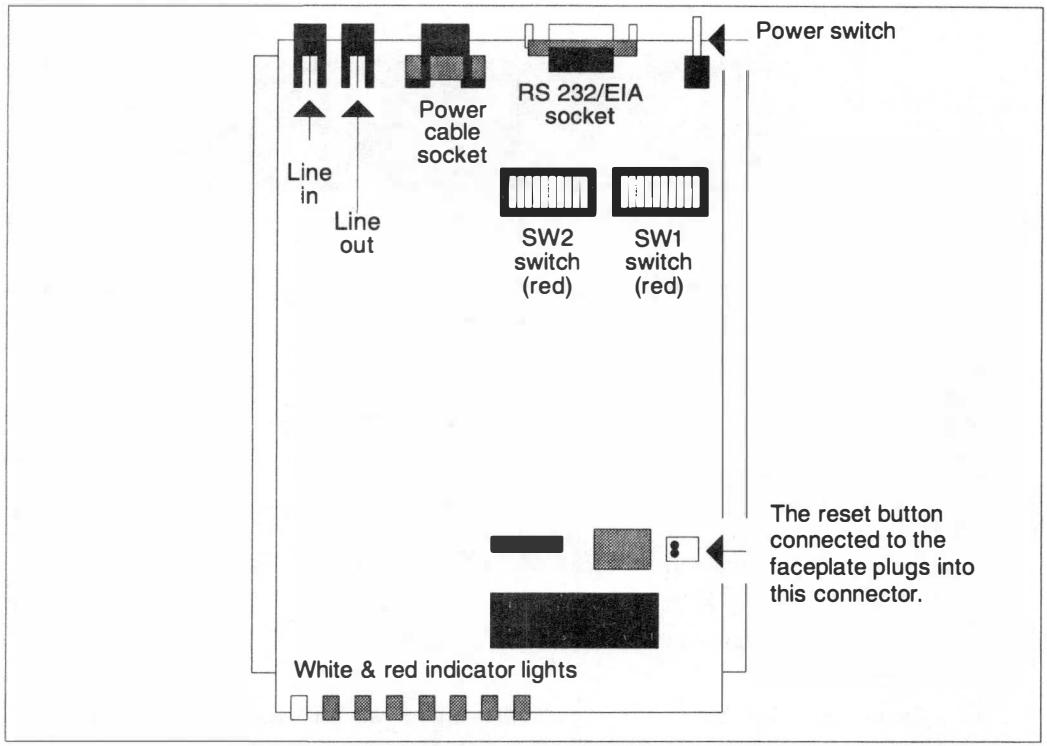


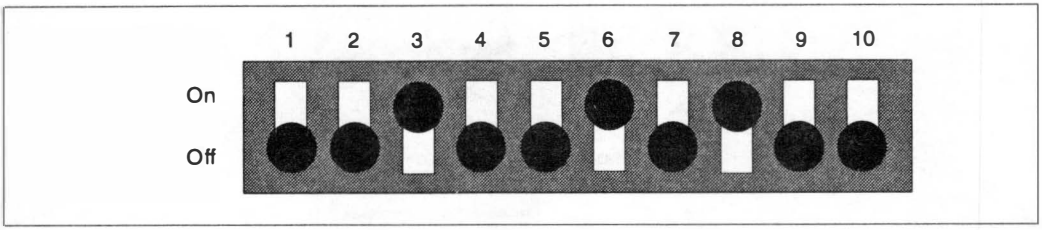
Figure 5-21
Ven-Tel 2400 Plus II modem—switch locations



Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. The cable connecting the Meridian MAX SNN's VME multiport cable and the Ven-Tel 2400 Plus II modem is the modem cable NT7D99AA. The cable connecting the Meridian MAX - IPE's four-port I/O cable and the Ven-Tel 2400 Plus II modem is the modem cable NT1R03HF.

To properly set up the Ven-Tel 2400 Plus II modem for use as a dial-up supervisor modem, refer to Figure 5-22 and ensure the modem's switch settings are correct. The same switch settings should be used at both the remote end and the MAX end.

Figure 5-22
Ven-Tel 2400 Plus II remote dial-up supervisor modem switch settings



Complete the procedures in Procedure 5-9 to configure the Ven-Tel 2400 Plus II modem for dial-up supervisor.

Procedure 5-9
Configuring the Ven-Tel 2400 Plus II dial-up supervisor modem—remote end

Step	Configuration action and system response
1	Open the modem as in Figure 5-20 and ensure that the switch settings are correct. Figure 5-21 shows the switch locations on the modem. Compare them with the correct settings in Figure 5-22.
2	Connect a workstation to the modem with a straight through NT1 R03Dx or NT1R03Ex cable.
3	Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
4	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
5	Enter **at&f** followed by **{RETURN}**. OK
6	Enter **ats2=128** followed by **{RETURN}**. OK
7	Enter **at&c1** followed by **{RETURN}**. OK

—continued—

Procedure 5-9 (continued)
Configuring the Ven-Tel 2400 Plus II dial-up supervisor modem—remote end

Step	Configuration action and system response
8	Enter **at&d2** followed by **{RETURN}**.
	OK
9	Enter **atv1** followed by **{RETURN}**.
	OK
10	Enter **atx1** followed by **{RETURN}**.
	OK
11	Enter **ats0=1** followed by **{RETURN}**.
	OK
12	Enter **atq0** followed by **{RETURN}**.
	OK
13	Enter **ate0** followed by **{RETURN}**.
	OK
	The following command will not appear on the screen when you enter it:
14	Enter **at&w** followed by **{RETURN}**.
	OK
15	Use the Hayes AT command "atdt####" for touch-tone dialing and "atdp####" for pulse dialing to dial the required number. (where #### is the telephone number of the Meridian MAX modem)

—end—

Ven-Tel 9600 Plus (with power pack model # L5730-01)

Figure 5-23 shows the front view of the Ven-Tel 9600 Plus modem and Figure 5-24 shows the rear view. Figure 5-25 shows how to open the modem. Figure 5-26 shows the switch locations.

Figure 5-23
Ven-Tel 9600 Plus modem—front view

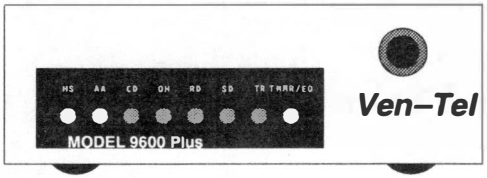


Figure 5-24
Ven-Tel 9600 Plus modem—rear view

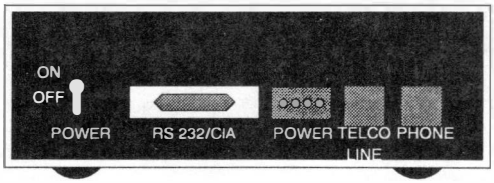


Figure 5-25
Ven-Tel 9600 Plus modem—opening the modem

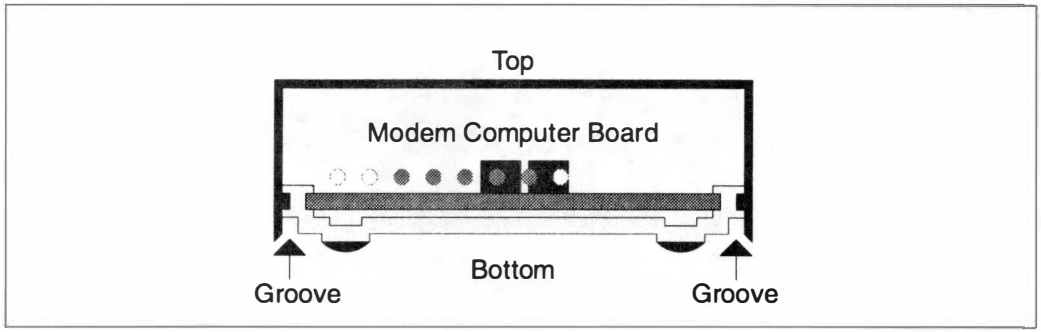


Figure 5-26
Ven-Tel 9600 Plus modem—switch locations and settings

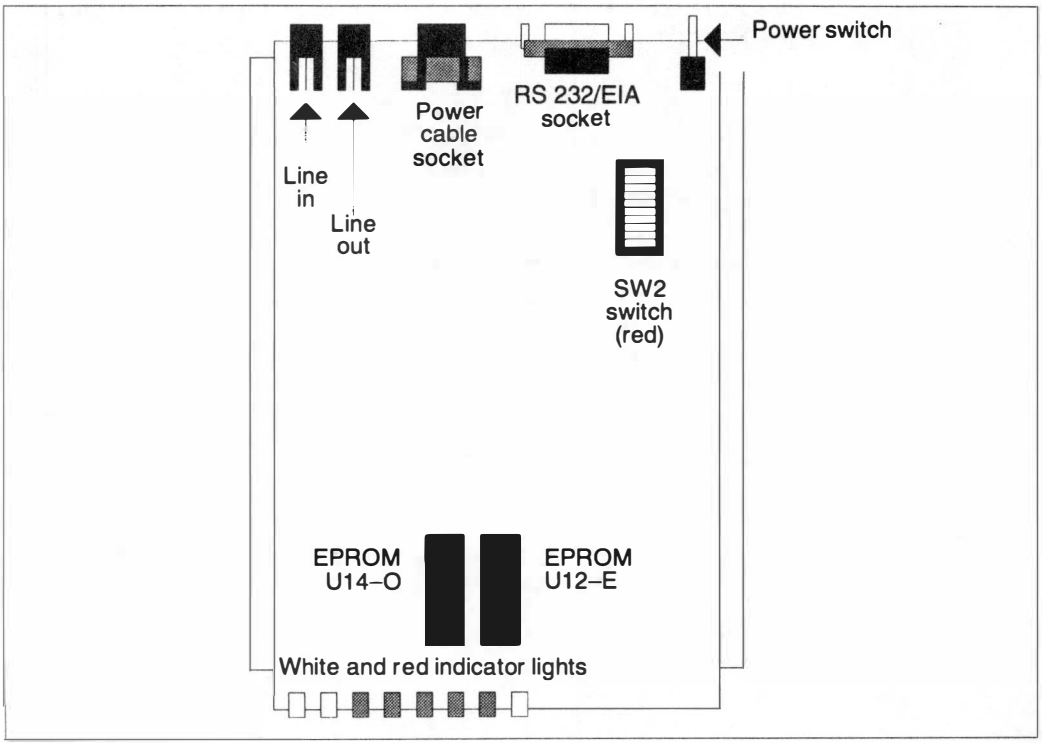
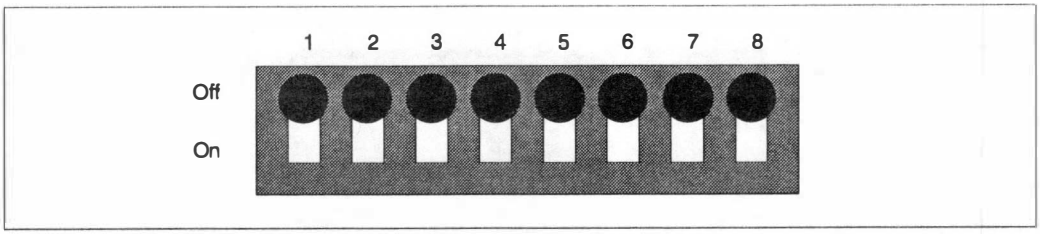


Figure 5-27
Ven-Tel 9600 Plus remote dial-up supervisor, remote supervisor login, and network link modem switch settings



Meridian MAX automatically configures remote supervisor modems connected at the Meridian MAX end. The cable connecting the Meridian MAX SNN's VME multiport cable and the Ven-Tel 9600 Plus modem is the modem cable NT7D99AA. The cable connecting the Meridian MAX - IPE's four-port I/O cable and the Ven-Tel 9600 Plus modem is the modem cable NT1R03HF.

To properly set up the Ven-Tel 9600 Plus modem for use as a dial-up supervisor modem, refer to Figure 5-27 and ensure the modem's switch settings are correct. The same switch settings should be used at both the remote end and the MAX end.

Complete the procedures in Procedure 5-10 to configure the Ven-Tel 9600 Plus modem for dial-up supervisor.

Make sure power pack model number L5730-01 is used.

Procedure 5-10
Configuring the Ven-Tel 9600 Plus dial-up supervisor modem—remote end

Step	Configuration action and system response
1	Open the modem and ensure that the switch settings are correct. Compare them with the correct settings in Figure 5-27. Set the workstation speed to 9600 baud.
2	Connect a workstation to the modem with a straight through NT1R03Dx or NT1R03Ex cable.
3	Connect the workstation and the modem to their power sources. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
4	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
5	Enter **at&f** followed by **{RETURN}**.
	OK
6	Enter **ats2=128** followed by **{RETURN}**.
	OK
7	Enter **at&c1** followed by **{RETURN}**.
	OK
8	Enter **at&d2** followed by **{RETURN}**.
	OK
9	Enter **atv1** followed by **{RETURN}**.
	OK
10	Enter **atx1** followed by **{RETURN}**.
	OK
11	Enter **ats0=1** followed by **{RETURN}**.
	OK

—continued—

Procedure 5-10 (continued)
Configuring the Ven-Tel 9600 Plus dial-up supervisor modem—remote end

Step	Configuration action and system response
12	Enter **atq0** followed by **{RETURN}**.
	OK
13	Enter **ate0** followed by **{RETURN}**.
	OK
	The following command will not appear on the screen when you enter it:
14	Enter **at&w** followed by **{RETURN}**.
	OK
15	Use the Hayes AT command "atdt####" for touch-tone dialing and "atdp####" for pulse dialing to dial the required number. (where #### is the telephone number of the Meridian MAX modem)

—end—

NAC connectivity

Network Administration Center (NAC) is a computerized system which allows organizations with multiple sites (known as "nodes") to monitor and supervise all sites from one central location. Using NAC connectivity, each Meridian MAX system can become a node on the NAC system.

NAC currently functions on two hardware platforms. NAC 2 functions on the Application Module (AM) platform while NAC 1 functions on the HP Vectra platform. NAC 2 functions with Meridian MAX software versions 7 and 4.31.

NAC 2 and NAC 1 both support full Meridian MAX 7 functionality. The exception is that NAC 2 reports contain the Enhanced Day/Night Call Abandoned data.

Figure 5-28 shows a simplified overview of the network connectivity between a NAC 2 system and its various MAX nodes using modems.

Figure 5-29 shows a simplified overview of the network connectivity between a NAC 1 system and its various MAX nodes using modems.

NAC connectivity supports the following functions:

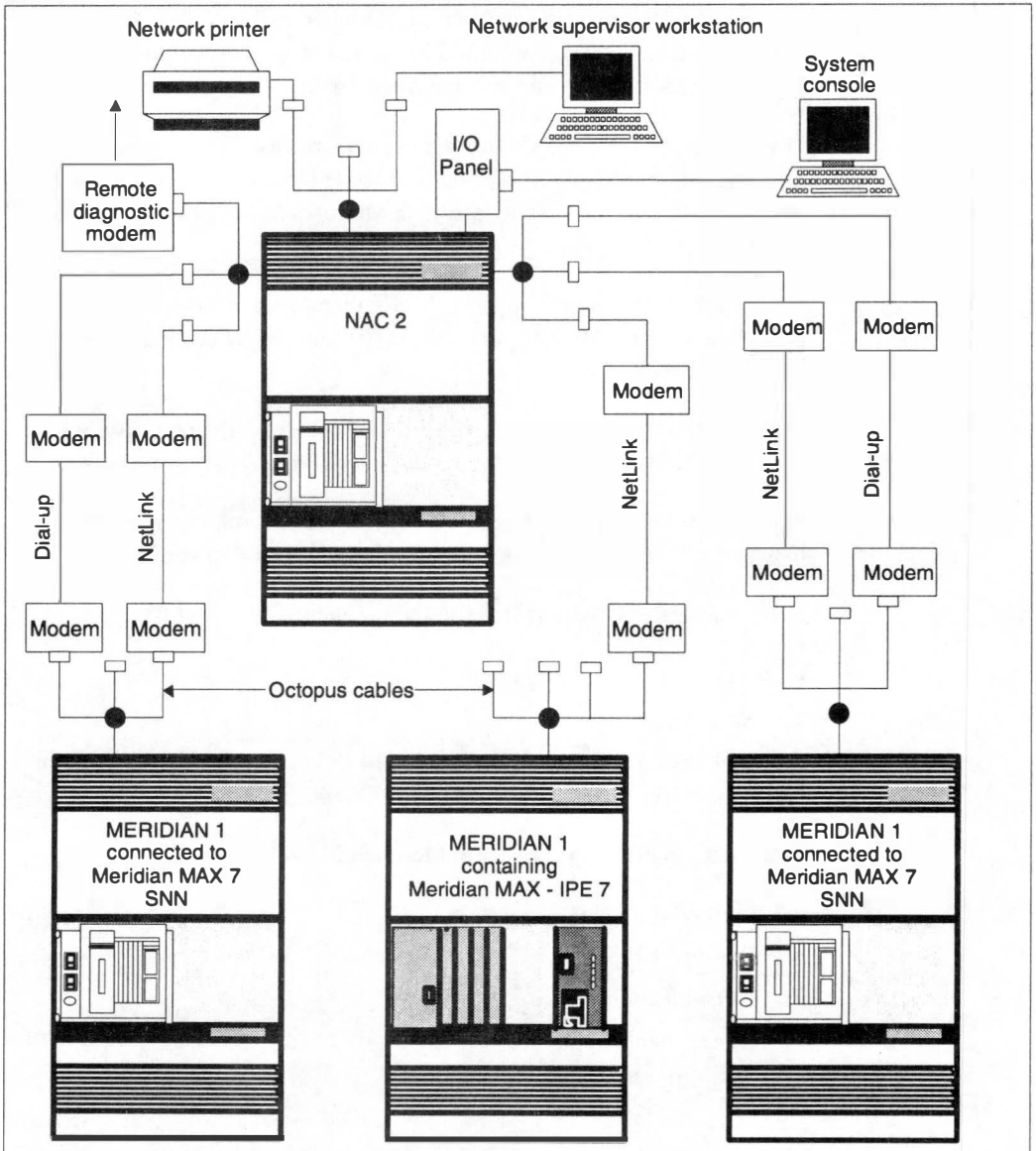
- Remote supervisor login
- Network link

Both remote supervisor login and network link require a separate modem connection. Your site's layout may be different.

Your NAC system can connect to Meridian MAX in four ways:

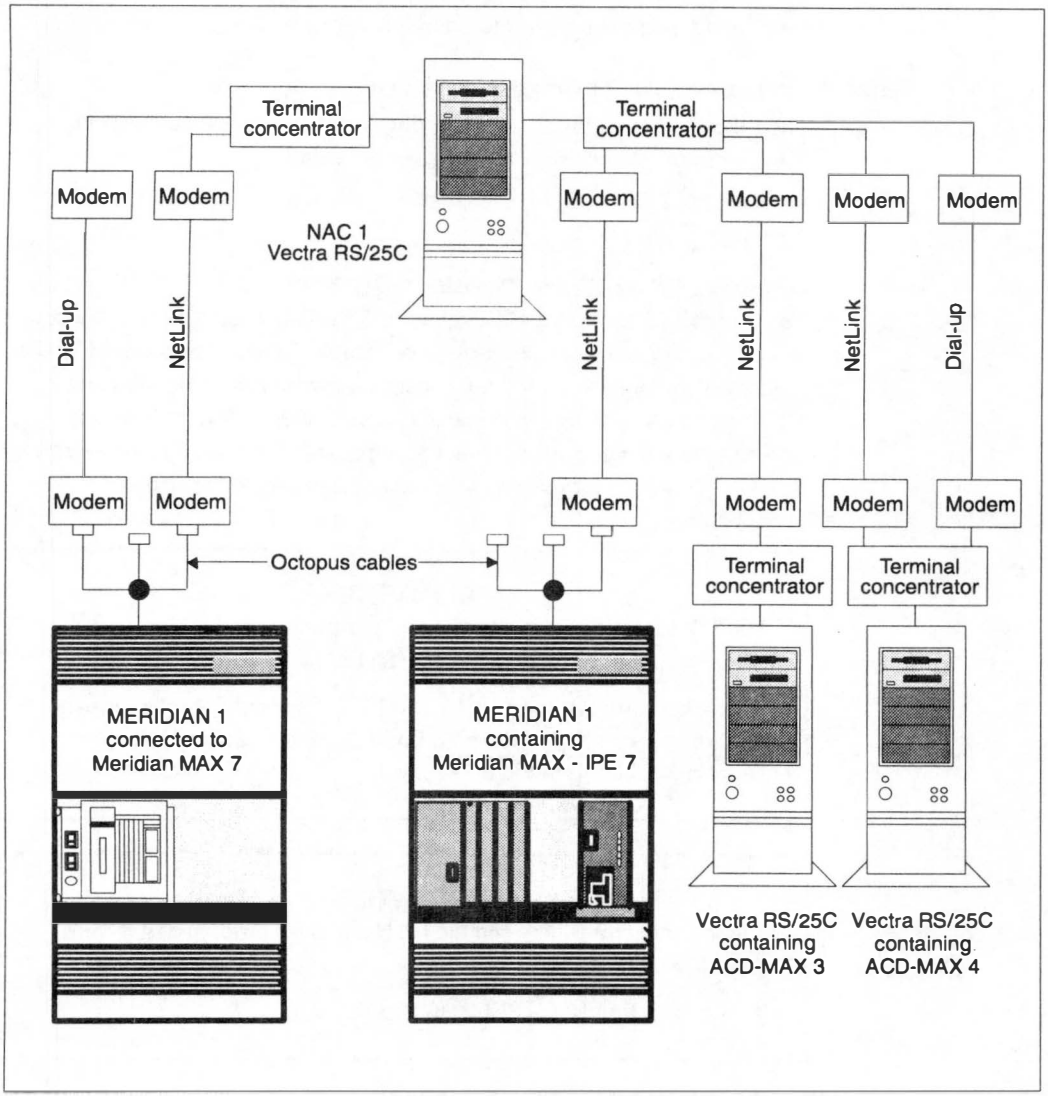
- Limited distance
- Dial-up
- T1 connection
- Direct connection

Figure 5-28
NAC 2 network connectivity overview



Note: The NAC 2 module can also be in a stand-alone AEM module.

Figure 5-29
NAC 1 network connectivity overview



Limited distance modems for NAC connectivity

Limited distance modems extend workstation and printer connections when used for a remote supervisor login or a network link.

Remote supervisor login and network link

The following modems are supported for limited distance connections using a remote supervisor login or a network link:

- Gandalf LDS 120E
- Develcon DS 511A

Gandalf LDS 120E and Develcon DS 511A

The Gandalf LDS 120E and Develcon DS 511A limited distance modems can be used for both the remote supervisor login and the network link. This modem allows you to extend the distance between a NAC system and a Meridian MAX system to a nominal distance of eight km (five miles). Other limited distance modems may not provide the eight km (five mile) distance. It is the your responsibility to check with the particular manufacturer.

ATTENTION

RS-232 cables that directly connect peripherals to the Meridian MAX must not exceed 15 meters (50 feet).

This length is based on an EIA RS-232C standard. Peripherals can be farther away if self-powered limited-distance (own power supply), or dial-up modems are used.

ATTENTION

Cable connections between the LAN and the Meridian MAX must not exceed 50 meters (164 feet).

This connection is an IEEE standard 802.3.

For NAC 2, each remote supervisor login and network link requiring a limited distance modem needs a straight-through NT1R03Dx cable and the modem cable NT7D99AA (SNN) or NT1R03HF (IPE) at the Meridian MAX end and the NAC end.

Figure 5-30 illustrates the hardware configuration required to use the Gandalf LDS 120E modem for network link and remote supervisor login with a NAC 2 system.

Figure 5-31 illustrates the hardware configuration required to use the Develcon DS 511A modem for network link and remote supervisor login with a NAC 2 system.

For NAC 1, each remote supervisor login and network link requiring a limited distance modem needs a straight-through NT1R03Dx cable, the modem cable NT7D99AA (SNN) or NT1R03HF (IPE), and the NT9D8001 cable illustrated in Figure 5-34.

Figure 5-32 illustrates the hardware configuration required to use the Gandalf LDS 120E modem for network link and remote supervisor login with a NAC 2 system.

Figure 5-33 illustrates the hardware configuration required to use the Develcon DS 511A modem for network link and remote supervisor login with a NAC 2 system.

Figure 5-30
NAC 2 Gandalf LDS 120E limited distance modem hardware configuration for remote supervisor login or network link

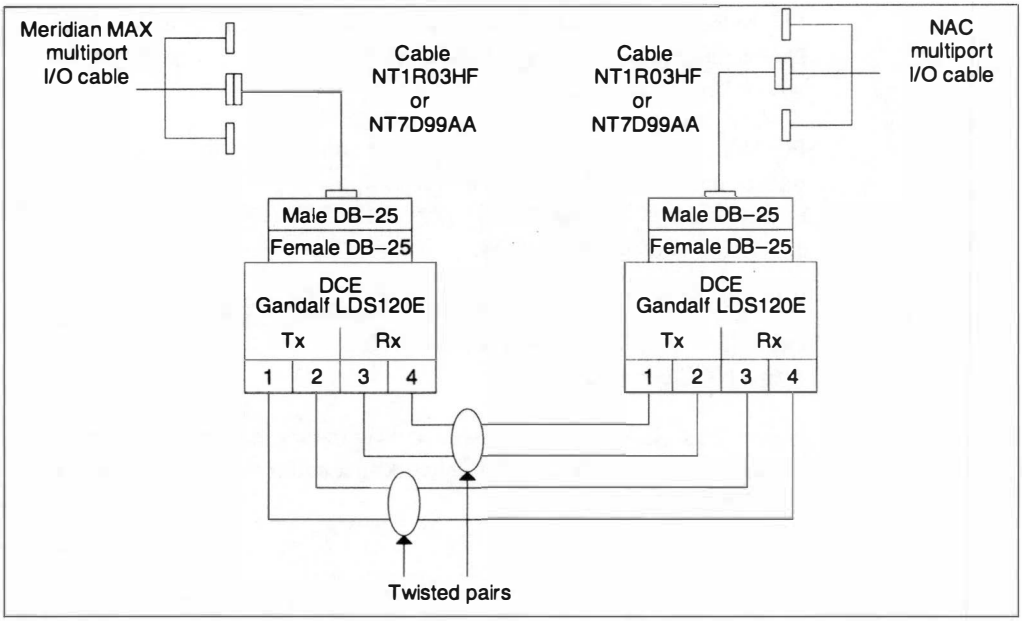


Figure 5-31
NAC 2 Develcon DS 511A limited distance modem hardware configuration for remote supervisor login or network link

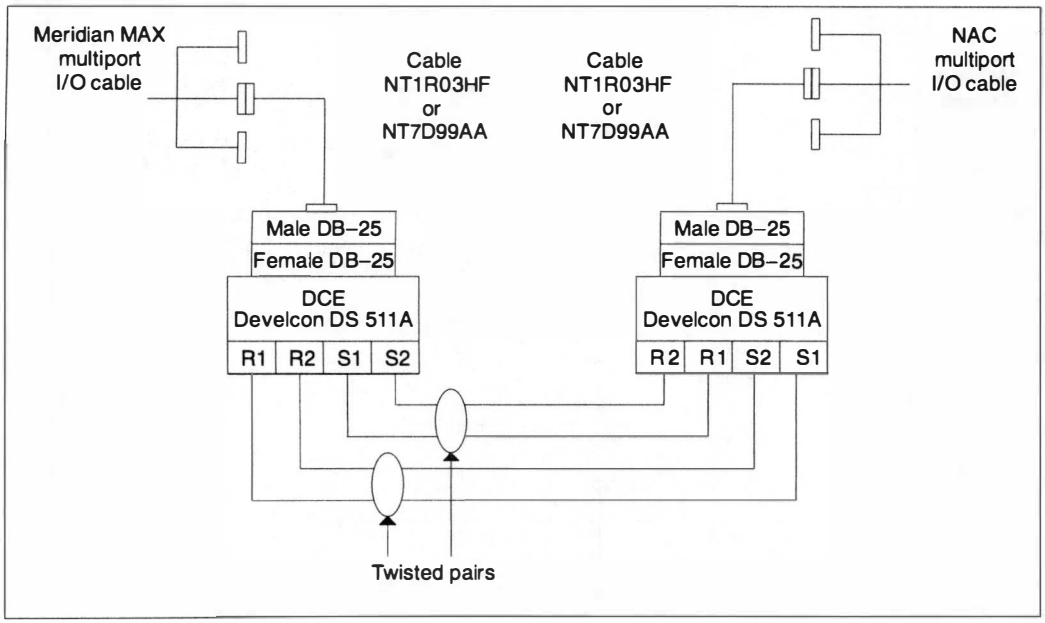


Figure 5-32
NAC 1 Gandalf LDS 120E limited distance modem hardware configuration for network link or remote supervisor login

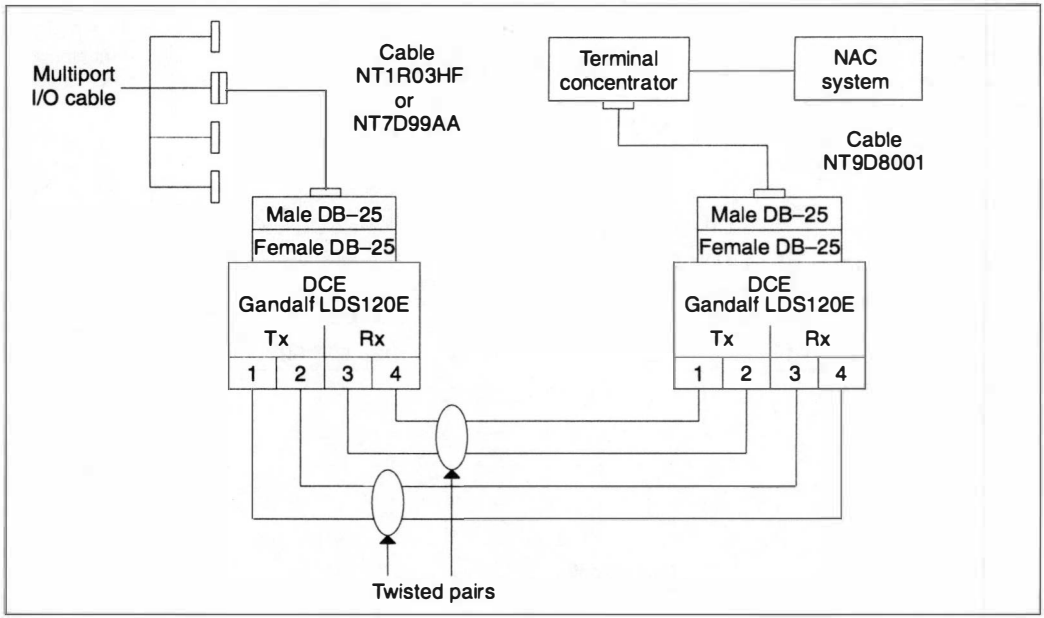


Figure 5-33
NAC 1 Develcon DS 511A limited distance modem hardware configuration for network link or remote supervisor login

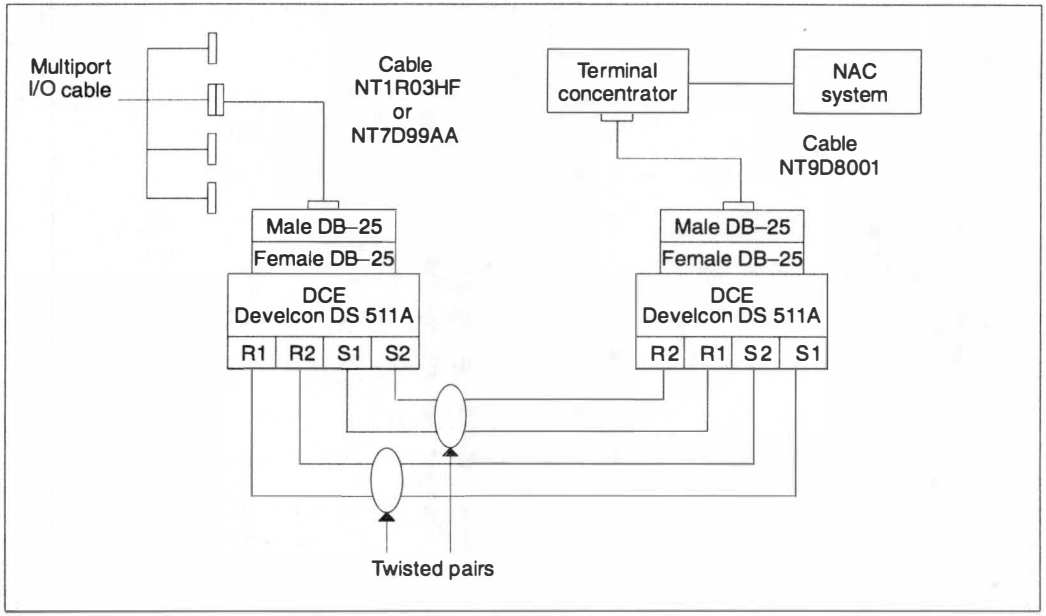
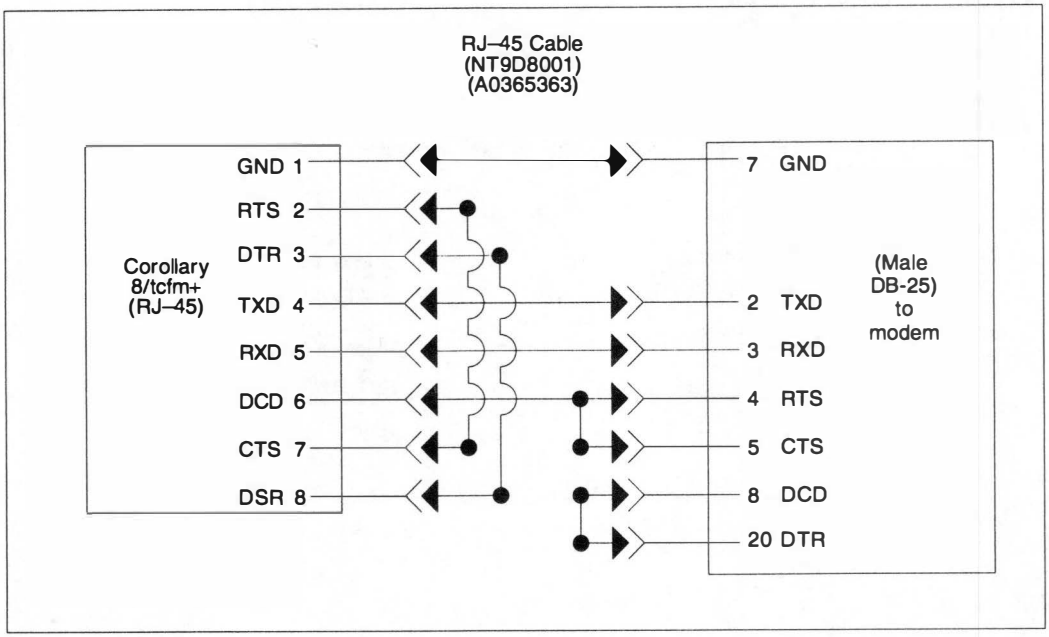


Figure 5-34
Cabling arrangement—modem connection cable NT9D8001



Connect one end of the NT7D99AA (SNN) to the VME multiport cable or the NT1R03HF (IPE) modem cable to the four-port I/O cable port, then connect the other end to the female DB-25 socket on the first Gandalf LDS 120E or Develcon DS 511A modem. The first Gandalf LDS 120E or Develcon DS 511A modem is connected to the second Gandalf LDS 120E or Develcon DS 511A modem with a 2-pair twisted cable of 24 AWG. This cable cannot exceed eight km (five miles).

For a NAC 2 system, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the NAC's VME multiport cable port using an NT7D99AA modem cable, with one DB-25 connector attached to the second Gandalf LDS 120E or Develcon DS 511A modem's female DB-25 socket, and the second male DB-25 connector attached to the NAC's VME multiport cable.

For a NAC 1 system, the second Gandalf LDS 120E or Develcon DS 511A modem is connected to the terminal concentrator through the NT9D8001 cable. A male DB-25 connector is attached to the second Gandalf LDS

120E or Develcon DS 511A modem's female DB-25 socket, with the RJ-45 connector attached to the terminal concentrator.

Gandalf LDS 120E modem settings

The following settings are necessary for the Gandalf LDS 120E modem to be used:

- Termination: T (330 OHM)
- Internal Jumper Plugs: 4-wire mode, J13-J14 connected and J15-J16 connected
- Front Panel Push-button Switches: ALL OUT - TP - RL - DL - AL

Table 5-7 lists the external DIP switch settings for point-to-point, full-duplex for the Gandalf LDS 120E. Table 5-8 lists the internal DIP switch settings for point-to-point, full-duplex.

Table 5-7
LDS 120E external DIP switch settings for point-to-point, full-duplex

Switch number	Switch setting
1	OPEN (OFF)
2	CLOSED (ON)
3	CLOSED (ON)
4	CLOSED (ON)
5	CLOSED (ON)
6	NOT USED

Table 5-8
LDS 120E internal DIP switch settings for point-to-point, full-duplex

Switch number	Switch setting
1	CLOSED (ON)
2	CLOSED (ON)
3	CLOSED (ON)
4	CLOSED (ON)
5	CLOSED (ON)
6	CLOSED (ON)

Once the modems are connected, turn on the power and ensure the DCD lamp on each modem comes on. This will indicate that both Gandalf LDS 120E modems are active.

Please note that these instructions may vary depending on the equipment used at your site.

NAC 2 end

The cable between the NAC, running with a Meridian MAX 7 SNN system, and the limited distance modem is modem cable NT7D99AA. Figure 5-35 illustrates this connection.

The cable between the NAC, running with a Meridian MAX - IPE 7, and the limited distance modem is modem cable NT7D99AA. Figure 5-37 illustrates this connection.

Refer to the "Modems" section of the "Hardware installation" chapter of the *Network Administration Center (NAC) 2.0 Installation Guide* (NTP 553-4011-110) for further information.

NAC 1 end

The RJ-45 end of the NT9D8001 cable is connected to the corollary terminal concentrator at the NAC end. The other end of the cable is a DB-25 male connector, which is attached to a limited distance modem.

Figures 5-36 and 5-38 illustrate this connection.

Refer to the "Modems" section of the "Hardware installation" chapter of *Network Administration Center (NAC) 1.0 Installation* (NTP 553-4011-100) for further information.

Meridian MAX end

The cable between the Meridian MAX, running on an SNN module, and the limited distance modem is modem cable NT7D99AA. Figure 5-36 illustrates this connection.

The cable between the Meridian MAX, running on an IPE module, and the limited distance modem is modem cable NT1R03HF. Figure 5-38 illustrates this connection.

Figure 5-35
Connecting NAC 2 with a Meridian MAX node—limited distance connection (SNN)

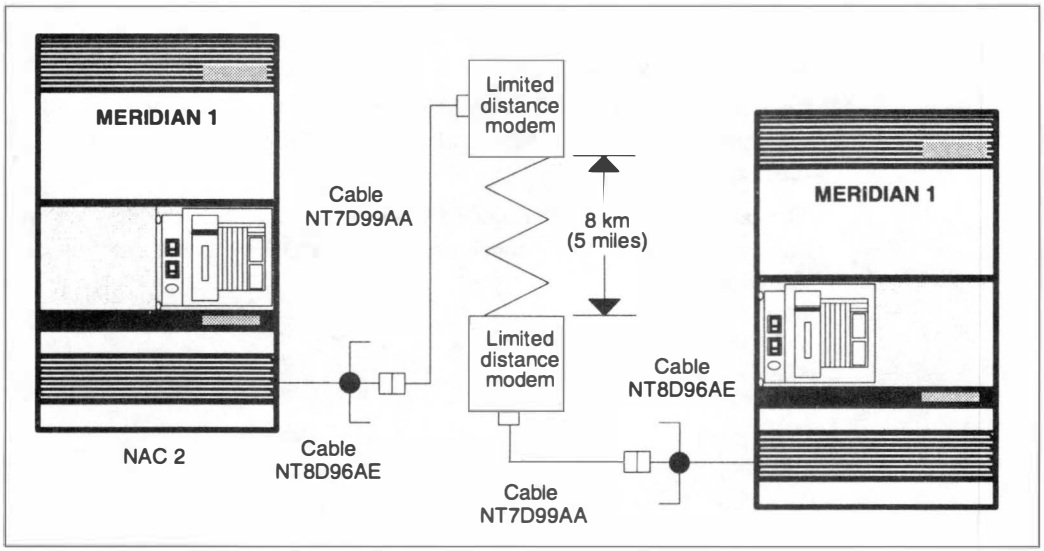


Figure 5-36
Connecting NAC 1 with a Meridian MAX node—limited distance connection (SNN)

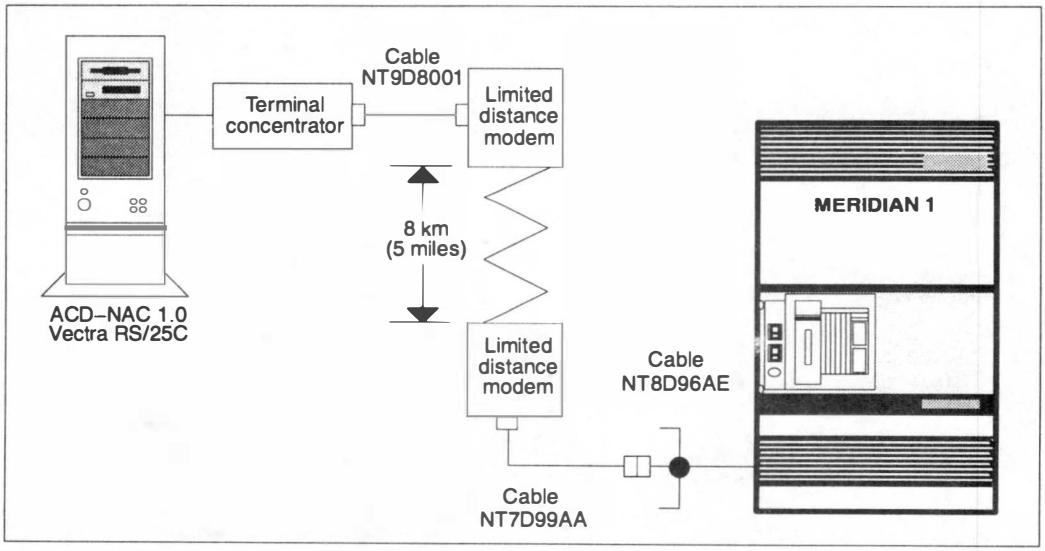


Figure 5-37
Connecting the NAC 2 with a Meridian MAX node—limited distance connection (IPE)

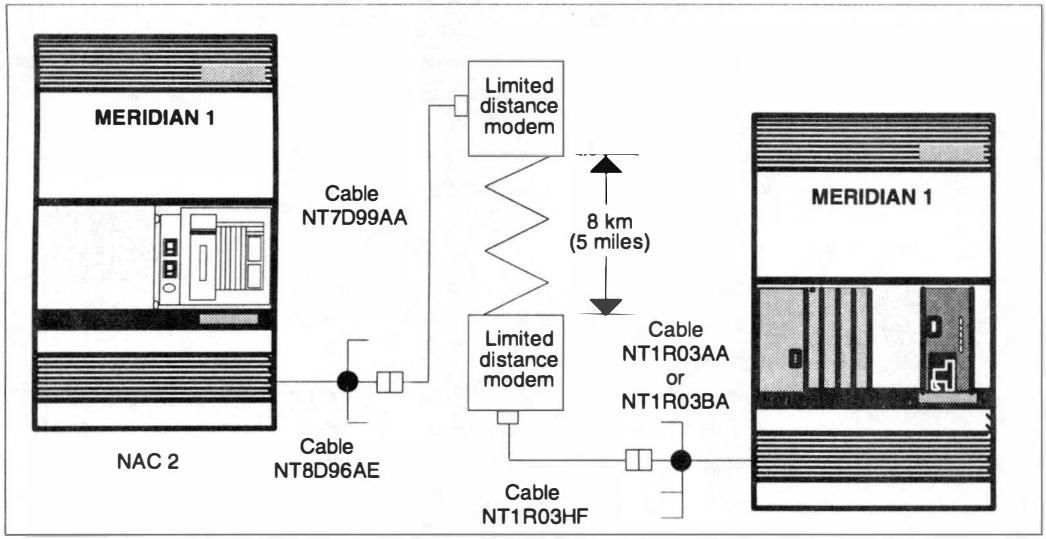
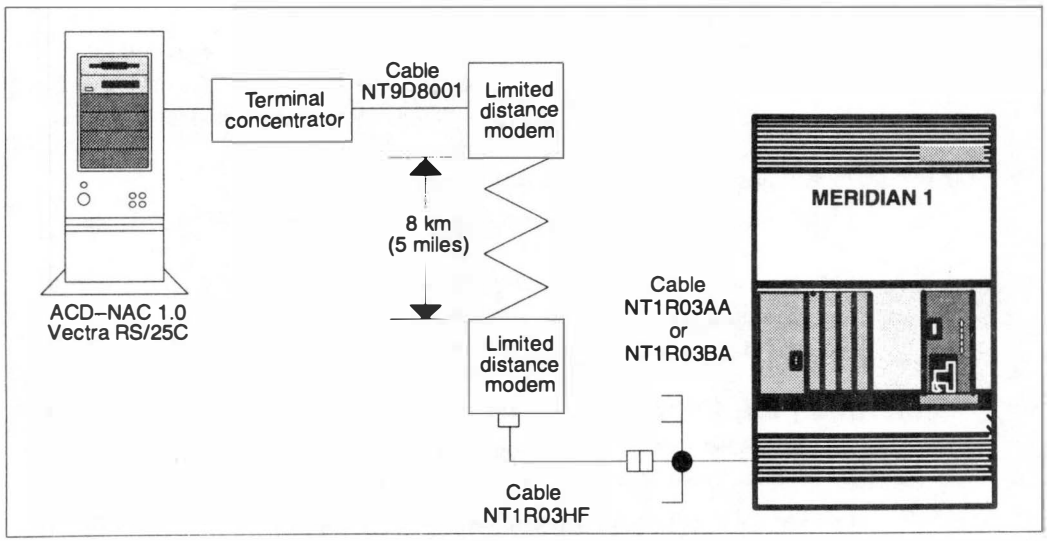


Figure 5-38
Connecting the NAC 1 with a Meridian MAX node—limited distance connection (IPE)



Dial-up modems for NAC connectivity

If the NAC system is beyond eight km (five miles) of the Meridian MAX SNN's VME multiport cable or the IPE's four-port I/O cable, then the dial-up connection method can be used. Dial-up modems can be used with both the remote supervisor login and network link.

All modems for NAC connectivity to Meridian MAX are cabled in the same fashion. This is outlined as follows:

NAC 2 end

The cable between the NAC, running a Meridian MAX 7 SNN system, and the dial-up modem is a modem cable NT7D99AA. Figure 5-39 illustrates this connection.

The cable between the NAC, running a Meridian MAX - IPE 7 system, and the dial-up modem is a modem cable NT7D99AA. Figure 5-41 illustrates this connection.

Refer to the "Modems" section of the "Hardware installation" chapter of *Network Administration Center (NAC) 2.0 Installation* (NTP 553-4011-110) for further information.

NAC 1 end

The RJ-45 end of the NT9D9007 cable is connected to the corollary terminal concentrator at the NAC end. The other end of the cable is a DB-25 male connector, which is attached to a dial-up modem.

Figures 5-40 and 5-42 illustrate this connection.

Figure 5-43 shows the cabling arrangement for the NT9D9007 cable.

Refer to the "Modems" section of the "Hardware installation" chapter of *Network Administration Center (NAC) 1.0 Installation* (NTP 553-4011-100) for further information.

Meridian MAX end

The cable between the Meridian MAX SNN and the dial-up modem is a modem cable NT7D99AA. Figure 5-40 illustrates this connection.

The cable between the Meridian MAX - IPE and the dial-up modem is a modem cable NT1R03HF. Figure 5-42 illustrates this connection.

Figure 5-39
Connecting the NAC 2 with a Meridian MAX node—dial-up connection (SNN)

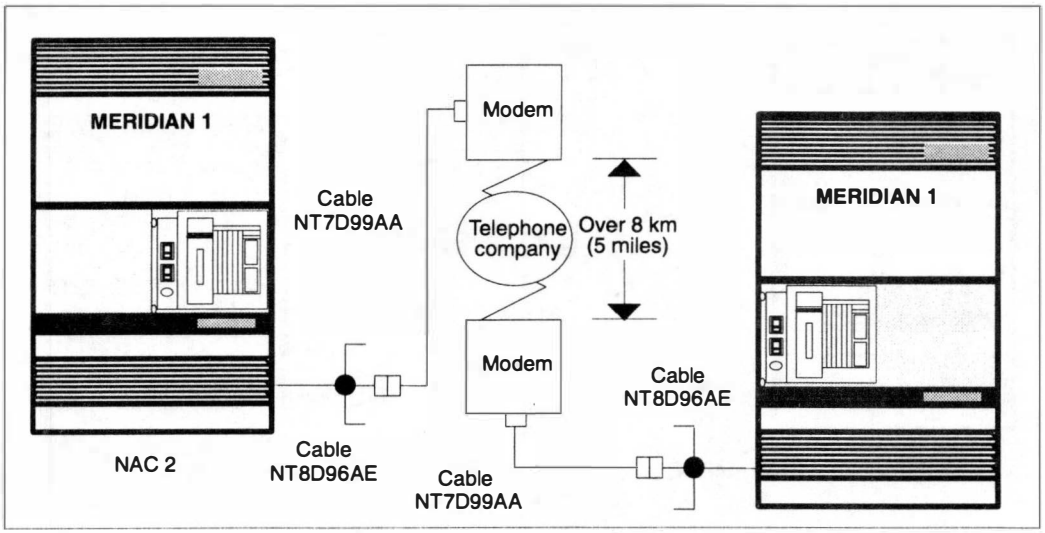


Figure 5-40
Connecting the NAC 1 with a Meridian MAX node—dial-up connection (SNN)

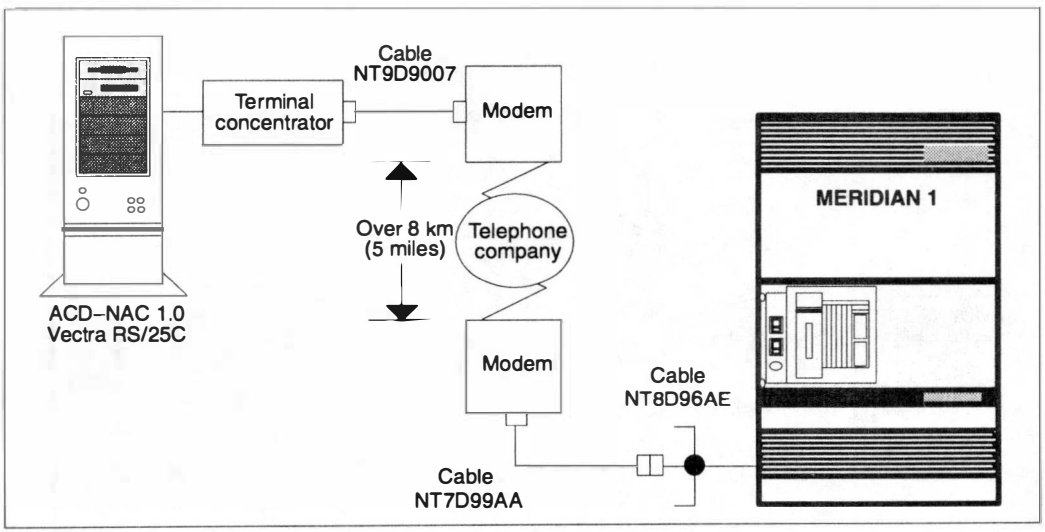


Figure 5-41
Connecting the NAC 2 with a Meridian MAX node—dial-up connection (IPE)

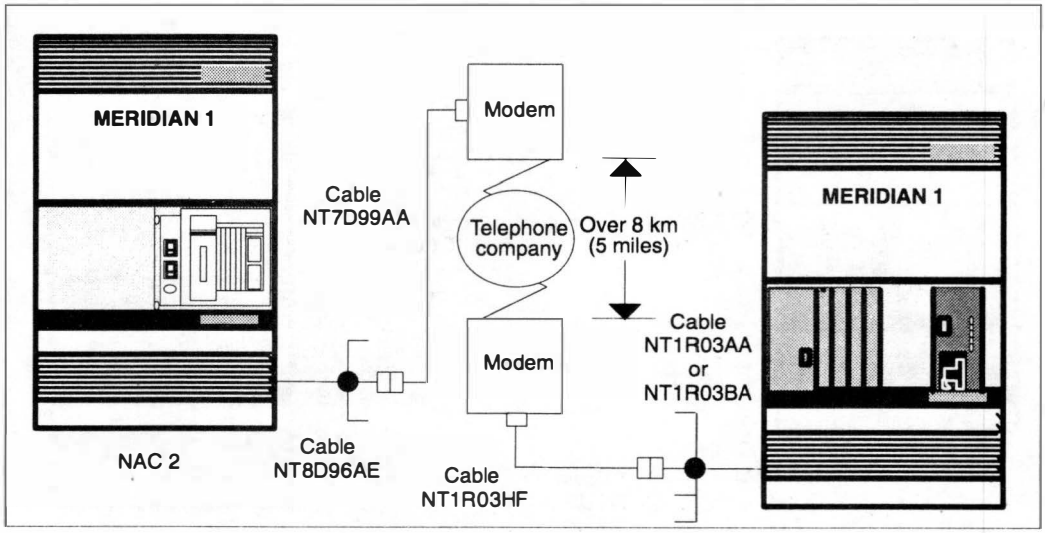


Figure 5-42
Connecting the NAC 1 with a Meridian MAX node—dial-up connection (IPE)

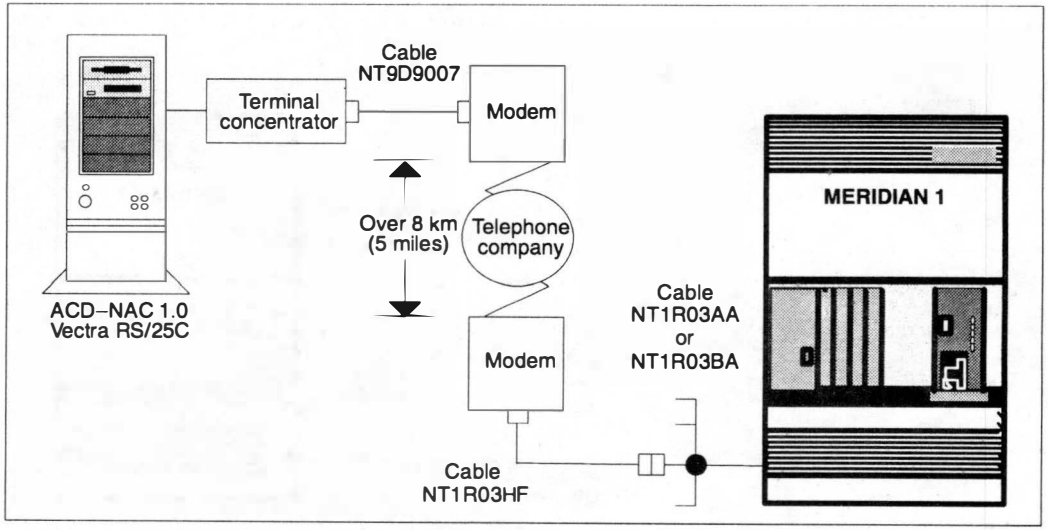
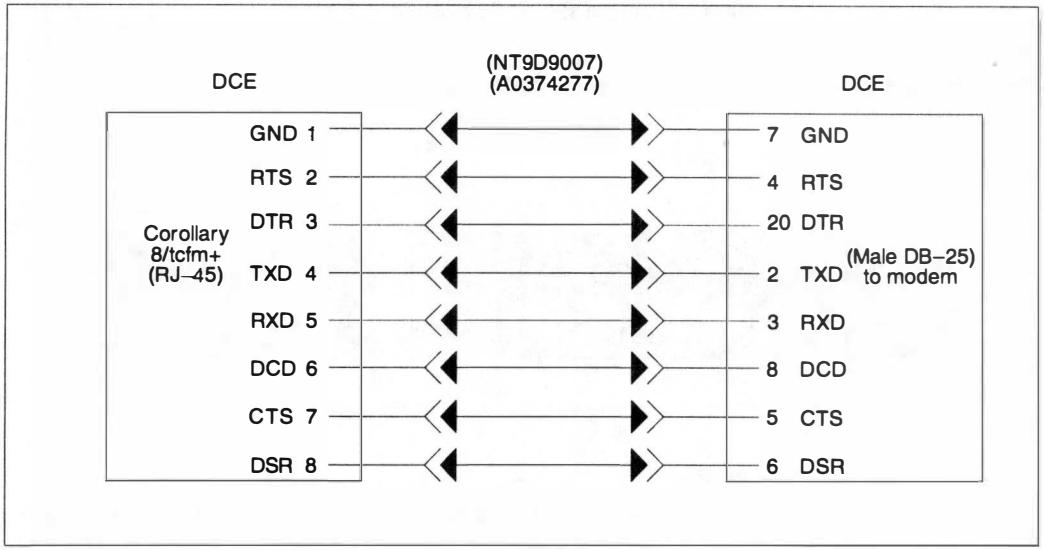


Figure 5-43
Cabling arrangement—direct connection cable NT9D9007



Remote supervisor login

The following modems can be used for remote supervisor logins:

- NetComm SmartModem M7F
- UDS 2440
- Ven-Tel 2400 Plus II
- Ven-Tel 9600 Plus
- Racal VI2422PA
- UDS EC224 A/D

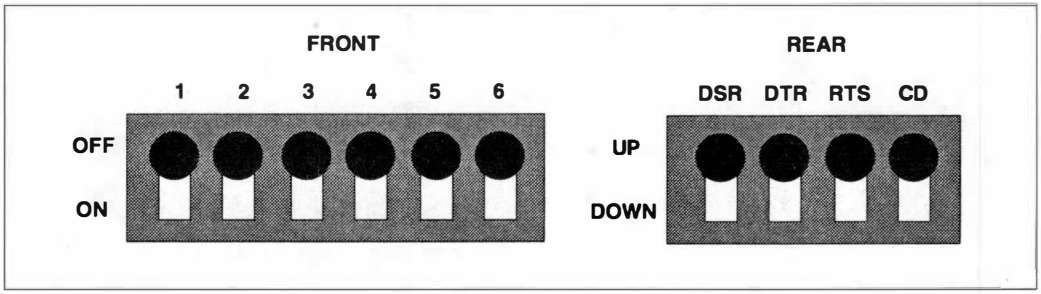
Both the NAC and Meridian MAX ends of the remote supervisor login connection send Hayes AT modem initialization strings.

NetComm SmartModem M7F

To properly set up the NetComm modem for remote supervisor login, ensure the modem's switch settings match those shown in Figure 5-44. The same switch settings should be used at both the remote end and the Meridian MAX end.

Note: There are two buttons located on the front panel of the modem: Mode and Talk/Data. For use with the NetComm modem, the Talk/Data button should be pressed.

Figure 5-44
NetComm SmartModem M7F modem switch settings



UDS 2440

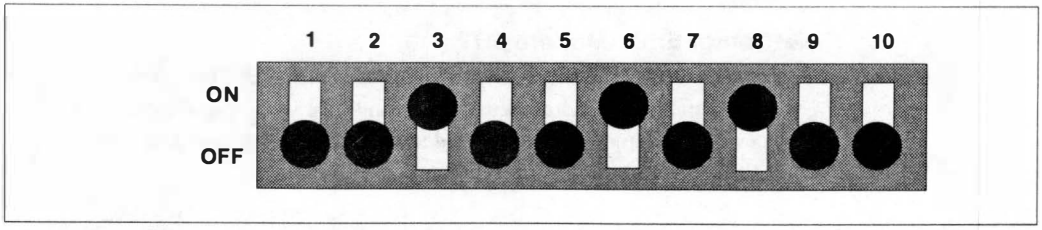
Figure 5-10 shows the front and rear view of the UDS 2440 dial-up supervisor modem. This modem connects to the SNN's multiport cable using an NT7D99AA cable. This modem connects to the IPE's multiport cable using an NT1R03HF cable.

No internal switch settings are required to configure the UDS 2440 modem for remote supervisor login. Refer to the "Dial-up supervisor modem" section, "UDS 2440" subsection, for more information.

Ven-Tel 2400 Plus II

To properly set up the Ven-Tel 2400 Plus II modem for use as remote supervisor login, ensure that the switch settings match those shown in Figure 5-45.

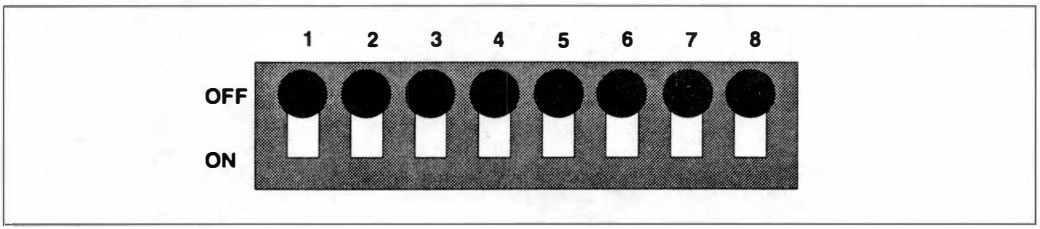
Figure 5-45
Ven-Tel 2400 Plus II remote supervisor login modem switch settings



Ven-Tel 9600 Plus

To properly set up the Ven-Tel 9600 Plus modem for use as remote supervisor login, ensure that the switch settings match those shown in Figure 5-46.

Figure 5-46
Ven-Tel 9600 Plus remote supervisor login modem switch settings



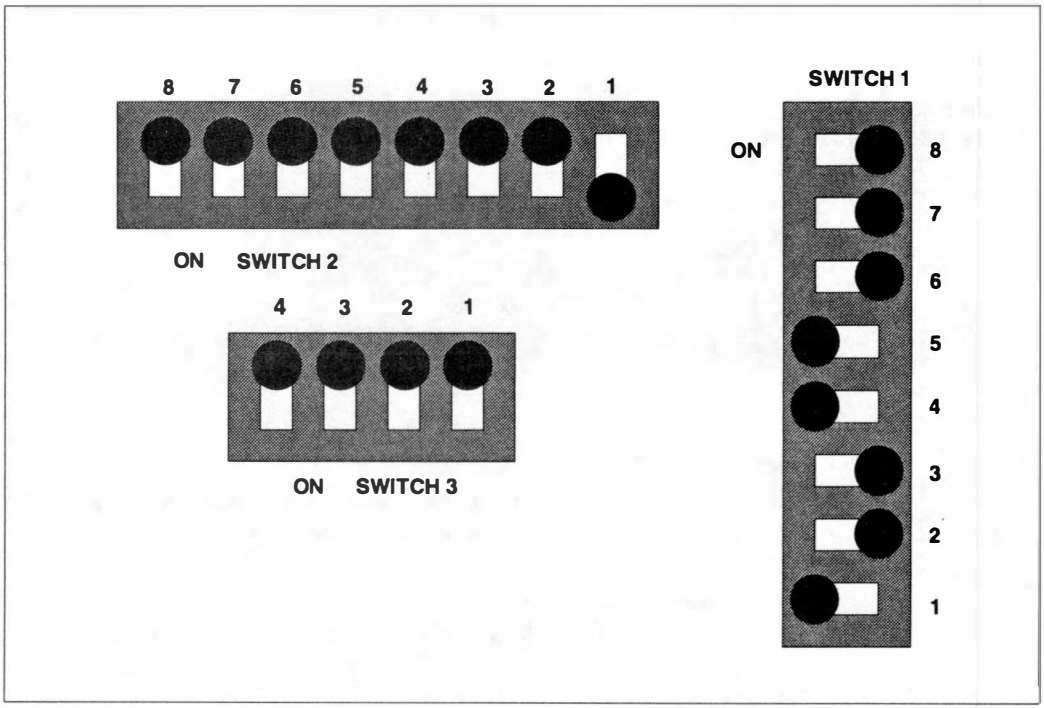
Racal VI2422PA

There are no internal switch settings required to configure the Racal VI2422PA modem for use as remote supervisor login.

UDS EC224A/D 2400

To properly set up the UDS EC224 A/D modem for use as remote supervisor login, ensure that the switch settings match those shown in Figure 5-47.

Figure 5-47
UDS EC224A/D 2400 remote supervisor login modem switch settings



Network link

The following modems can be used for network link:

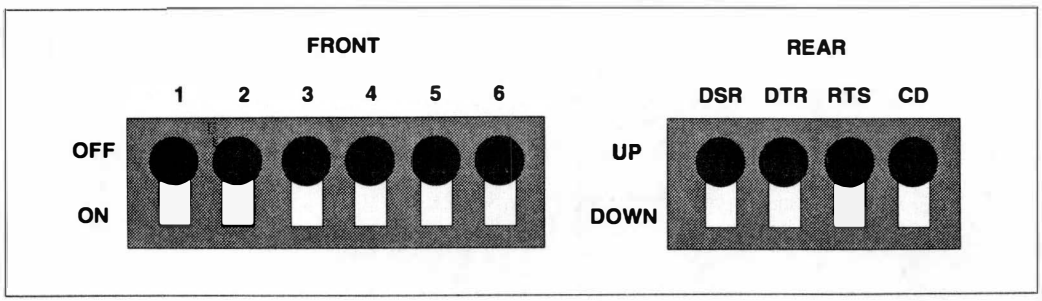
- NetComm SmartModem M7F
- UDS 2440
- Ven-Tel 2400 Plus II
- Ven-Tel 9600 Plus
- Racal VI2422PA

NetComm SmartModem M7F

To properly set up the NetComm modem for network link, ensure the modem's switch settings match those shown in Figure 5-48. The same switch settings should be used at both the remote end and the Meridian MAX end.

> ***Note:*** There are two buttons located on the front panel of the modem: Mode and Talk/Data. For use with the NetComm modem, the Talk/Data button should be pressed.

Figure 5-48
NetComm SmartModem M7F modem switch settings



Complete the steps in Procedure 5-11 to configure the NetComm modem for network link.

Procedure 5-11
Configuring the NetComm SmartModem M7F for network link

Step	Configuration action and system response
1	Connect a workstation to the modem with a straight through NT1 R03Dx or NT1 R03Ex cable. Set the workstation speed to 2400 baud.
2	Connect the workstation and the modem to their power sources.
3	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
4	Enter **atz** followed by **{RETURN}**.
	OK
5	Enter **at&f** followed by **{RETURN}**.
	OK
6	Enter **at&d0** followed by **{RETURN}**.
	OK
7	Enter **at&c1** followed by **{RETURN}**.
	OK
8	Enter **at\n3** followed by **{RETURN}**.
	OK
9	Enter **at\q3** followed by **{RETURN}**.
	OK
10	Enter **at&z1=t#######** followed by **{RETURN}**. ####### must be replaced with the correct telephone number for the NAC node.
	OK
11	Enter **at&w** followed by **{RETURN}**.
	NONE

—continued—

Procedure 5-11 (continued)
Configuring the NetComm SmartModem M7F for network llnk

Step	Configuration action and system response
12	Power down the workstation and the modem.
13	Disconnect the workstation from the modem.
14	Make sure the modem at the NAC site is properly connected and powered up. The NAC initiates the signal that connects the modems. The Meridian MAX modem dials the NAC telephone number as recorded during Step 10. The connection between the NAC site and the Meridian MAX site is confirmed when the Carrier Detect (CD) LED remains constantly on.
15	For an SNN system, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable. For IPE systems, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
16	Power up the modem. If your Meridian MAX system is powered up and fully functional, you should see the LED labelled "TR" light up on the front panel of the modem. If the "TR" LED does not light-up, retry this procedure. If the light still does not appear, contact your Nortel representative.

—end—

UDS 2440

Figure 5-10 shows the front and rear view of the UDS 2440 network link modem. This modem connects to the SNN's multiport cable using an NT7D99AA cable.

The UDS 2440 modem does not contain any internal switch settings. Complete Procedure 5-12 to configure the UDS 2440 modem for network link.

Procedure 5-12
Configuring the UDS 2440 modem for network link

Step	Configuration action and system response
1	Connect a workstation to the modem with a straight through NT1R03Dx or NT1R03Ex cable. Set the workstation speed to 2400 baud.
2	Connect the workstation and the modem to their power sources.
3	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
4	Enter **atz** followed by **{RETURN}**.
	OK
5	Enter **at&f** followed by **{RETURN}**.
	OK
6	Enter **at&d3** followed by **{RETURN}**.
	OK
7	Enter **at&s1** followed by **{RETURN}**.
	OK
8	Enter **at&c1** followed by **{RETURN}**.
	OK

—continued—

Procedure 5-12 (continued)
Configuring the UDS 2440 modem for network link

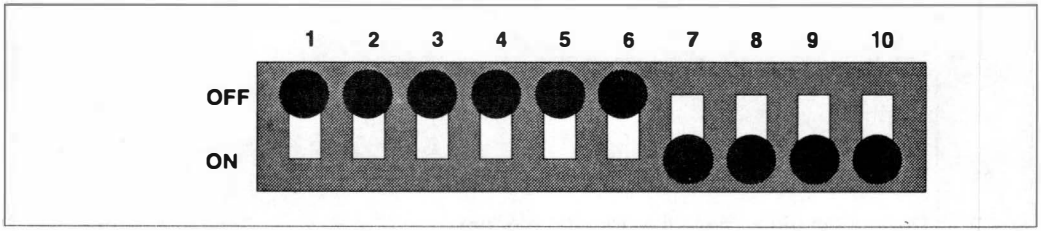
Step	Configuration action and system response
9	Enter **at&z0=t#######** followed by **{RETURN}**. ####### must be replaced with the correct telephone number for the NAC node. OK
10	Enter **at&w** followed by **{RETURN}**. OK
11	Power down the workstation and the modem.
12	Disconnect the workstation from the modem.
13	For an SNN system, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable. For IPE systems, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
14	Power up the modem. If your Meridian MAX system is powered up and fully functional, you should see the LED labelled "TR" light up on the front panel of the modem. If the "TR" LED does not light-up, retry this procedure. If the light still does not appear, contact your Nortel representative.

—end—

Ven-Tel 2400 Plus II

To properly set up the Ven-Tel 2400 Plus II modem for use as a network link, ensure that the switch settings match those shown in Figure 5-49, and follow the instructions given in Procedure 5-13.

Figure 5-49
Ven-Tel 2400 Plus II network link modem switch settings



To properly set up the Ven-Tel 2400 Plus II modem for use as a network link, follow the instructions given in Procedure 5-13.

Procedure 5-13
Configuring the Ven-Tel 2400 Plus II modem for network link

Step	Configuration action and system response
1	Open the modem and ensure that the switch settings are correct as shown in Figure 5-49. Set the workstation speed to 2400 baud.
2	Connect a workstation to the modem with a straight-through NT1 R03Ex cable.
3	Connect the workstation and the modem to their power sources.
4	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
5	Enter **at&f** followed by **{RETURN}**. OK

—continued—

Procedure 5-13 (continued)
Configuring the Ven-Tel 2400 Plus II modem for network link

Step	Configuration action and system response
6	Enter **at&d0** followed by **{RETURN}**.
	OK
7	Enter **at&c1** followed by **{RETURN}**.
	OK
8	Enter **at\n1** followed by **{RETURN}**.
	OK
9	Enter **at\g1** followed by **{RETURN}**.
	OK
10	Enter **at\q1** followed by **{RETURN}**.
	OK
11	Enter **at\x1** followed by **{RETURN}**.
	OK
12	Enter **at\j1** followed by **{RETURN}**.
	OK
13	Enter **at\c1** followed by **{RETURN}**.
	OK
14	Enter **ats64=1** followed by **{RETURN}**.
	OK
15	Enter **ats0=1** followed by **{RETURN}**.
	OK

—continued—

Procedure 5-13 (continued)
Configuring the Ven-Tel 2400 Plus II modem for network link

Step	Configuration action and system response
16	Enter **at&z1=t#######** followed by **{RETURN}**. ####### must be replaced with the correct telephone number for the NAC node. OK
17	Enter **atq1** followed by **{RETURN}**. NONE
18	Enter **ate0** followed by **{RETURN}**. NONE The following command will not appear on the screen when you enter it.
19	Enter **at&w** followed by **{RETURN}**. NONE
20	Power down the workstation and the modem.
21	Disconnect the workstation from the modem.
22	Make sure the modem at the NAC site is properly connected and powered up. The NAC initiates the signal that connects the modems. The Meridian MAX modem will dial the NAC telephone number as recorded during Step 16. The connection between the NAC site and the Meridian MAX site is confirmed when the carrier detect (CD) LED remains constantly on.
23	For an SNN system, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable. For IPE systems, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.

—continued—

Procedure 5-13 (continued)
Configuring the Ven-Tel 2400 Plus II modem for network link

Step	Configuration action and system response
24	Power up the modem. If your Meridian MAX system is powered up and fully functional, you should see the LED labelled "TR" light up on the front panel of the modem. If the "TR" LED does not light-up, retry this procedure. If the light still does not appear, contact your Nortel representative.

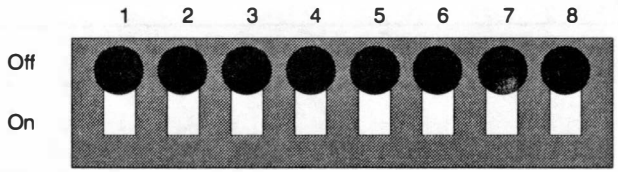
—end—

Ven-Tel 9600 Plus

To properly set up the Ven-Tel 9600 Plus modem for use as a network link, ensure that the switch settings match those shown in Figure 5-50, and follow the instructions given in Procedure 5-14.

Make sure power pack model # L5730-01 is used.

Figure 5-50
Ven-Tel 9600 Plus network link modem switch settings



Procedure 5-14
Configuring the Ven-Tel 9600 Plus modem for network link

Step	Configuration action and system response
1	Open the modem and ensure that the switch settings are correct as shown in Figure 5-50. Set the workstation speed to 9600 baud.
2	Connect a workstation to the modem with a straight-through NT1 R03Ex cable.
3	Connect the workstation and the modem to their power sources.
4	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
5	Enter **at&f** followed by **{RETURN}**.
	OK
6	Enter **at%f2** followed by **{RETURN}**.
	OK

—continued—

Procedure 5-14 (continued)
Configuring the Ven-Tel 9600 Plus modem for network link

Step	Configuration action and system response
7	Enter **at&d0** followed by **{RETURN}**.
	OK
8	Enter **at&c1** followed by **{RETURN}**.
	OK
9	Enter **at\n3** followed by **{RETURN}**.
	OK
10	Enter **at\q3** followed by **{RETURN}**.
	OK
11	Enter **ats64=1** followed by **{RETURN}**.
	OK
12	Enter **ats0=1** followed by **{RETURN}**.
	OK
13	Enter **at&z1=t#######** followed by **{RETURN}**. ####### must be replaced with the correct telephone number for the Meridian MAX node.
	OK
14	Enter **atq1** followed by **{RETURN}**.
	NONE
15	Enter **ate0** followed by **{RETURN}**.
	NONE

—continued—

Procedure 5-14 (continued)
Configuring the Ven-Tel 9600 Plus modem for network link

Step	Configuration action and system response
16	The following command does not appear on the screen when you enter it. Enter **at&w1&y1** followed by **{RETURN}**. NONE
17	Power down the workstation and the modem.
18	Disconnect the workstation from the modem.
19	Make sure the modem at the NAC site is properly connected and powered up. The NAC initiates the signal that connects the modems. The Meridian MAX modem will dial the NAC telephone number as recorded during Step 13. The connection between the NAC site and the Meridian MAX site is confirmed when the carrier detect (CD) LED remains constantly on.
20	For an SNN system, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable. For IPE systems, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
21	Power up the modem. If your Meridian MAX system is powered up and fully functional, you should see the LED labelled "TR" light up on the front panel of the modem. If the "TR" LED does not light-up, retry this procedure. If the light still does not appear, contact your Nortel representative.

—end—

Racal VI2422PA

There are no internal switch settings required to configure the Racal VI2422PA modem for use as a network link.

To properly set up the Racal VI2422PA modem for use as a network link, follow the instructions given in Procedure 5-15.

Procedure 5-15
Configuring the Racal VI2422PA modem for network link

Step	Configuration action and system response
1	Connect a workstation with data format 8N1 and speed 2400 baud to the modem with a straight-through NT1R03Ex cable.
2	Connect the workstation and the modem to their power sources.
3	Power up the workstation and the modem then enter the following commands on the workstation keyboard.
4	Enter **at&f** followed by **{RETURN}**.
	OK
5	Enter **at*f0** followed by **{RETURN}**.
	OK
6	Enter **at&zt#######** followed by **{RETURN}**. ####### must be replaced with the correct telephone number for the NAC node.
	OK
7	Enter **atq1** followed by **{RETURN}**.
	NONE
8	Enter **ate0** followed by **{RETURN}**.
	NONE
9	The following command does not appear on the screen when you enter it.

—continued—

Procedure 5-15 (continued)
Configuring the Racal VI2422PA modem for network link

Step	Configuration action and system response
	Enter **at&w** followed by **{RETURN}**.
	NONE
10	Power down the workstation and the modem.
11	Disconnect the workstation from the modem.
12	For an SNN system, connect the modem directly to the Meridian MAX multiport cable using an NT7D99AA modem cable. For IPE systems, connect the modem directly to the Meridian MAX multiport cable using an NT1R03HF modem cable. Make sure the modem is connected to the telephone system with an RJ-11 cable/connector.
13	Power up the modem.
14	Through the use of the Racal modem's front panel, choose option 1 and set the value to **1**. Choose option 13 and set the value to **2**.
15	Make sure the modem at the NAC site is properly connected and powered up. The NAC initiates the signal that connects the modems. The Meridian MAX modem dials the NAC telephone number as recorded during Step 6. The connection between the NAC site and the Meridian MAX site is confirmed when the carrier detect (CD) LED remains constantly on.

—end—

T1 connection for NAC connectivity

The NAC system can be connected to a Meridian MAX node through digital lines such as a T1 digital line. During the system's installation, the network link port on the NAC and the Meridian MAX must be configured as direct connection ports. On the NAC system, the network link baud rate should be set to 9600 through the Network Definition screen.

The T1 ports (Data Module or DSU) for the network link should be set up as follows:

- asynchronous
- full duplex
- 9600 baud
- 8 data bits, no parity, 1 stop bit
- T1 network delay must be less than 0.5 second.
- RS-232/C
- DCE or DTE (DCE is recommended)

If the T1 port for the network link provides a DB-25 interface then the network link is connected as follows:

- If the T1 port is configured as DCE, then the modem cable NT7D99AA (SNN) or NT1R03HF (IPE) is used to connect the T1 port to the IPE four-port I/O cable or the SNN VME multiport cable's network link port on the Meridian MAX.
- If the T1 port is configured as DTE, then the terminal cable NT1R03Dx is used to connect the T1 port to the IPE four-port I/O cable or SNN VME multiport cable's network link port on the Meridian MAX.

Note that it is desirable to have both ports of the T1 link configured as DCE. Setting up both ports as DTE is not recommended.

If the T1 data bank does not provide a DB-25 interface then a patch panel or similar equipment should be installed to provide the required RS-232/C interface. In this case the T1 connection will be from the patch panel to the corollary terminal concentrator in the NAC or the four-port cable in the Meridian MAX systems.

Due to the wide variety of T1 equipment available, it is important that the T1 administrator be consulted before installing the network link.

Direct connection for NAC connectivity

If the NAC system is within 15 meters (50 feet) of the four-port I/O cable used by a Meridian MAX nodal system, then you can use the direct connection method.

Because Meridian MAX and NAC 2 both run on the Application Module (AM) hardware platform, the two systems may be installed in the same Application Equipment Module (AEM).

NAC 2 end

The cable between the NAC, running with a Meridian MAX 7 SNN system, and the VME multiport cable is modem cable NT7D99AA. Figure 5-51 illustrates this connection.

The cable between the NAC, running with a Meridian MAX - IPE 7 system, and the four-port I/O cable port is modem cable NT7D99AA. Figure 5-53 illustrates this connection.

Refer to the "Modems" section of the "Hardware installation" chapter of the *Network Administration Center (NAC) 2 Installation Guide* (NTP 553-4011-110) for further information.

NAC 1 end

The RJ-45 end of the NT9D9007 cable is connected to the corollary terminal concentrator at the NAC end.

Figure 5-43 shows the cabling arrangement for the NT9D9007 cable.

Meridian MAX end

If Meridian MAX is connected to a NAC 2 system, one DB-25 end of the NT7D99AA cable is connected to the NT8D96AE multiport cable (SNN) or the NT1R03AA/BA cable (IPE) at the Meridian MAX end. Figures 5-51 and 5-53 illustrate these connections.

If Meridian MAX is connected to a NAC 1 system, the DB-25 end of the NT9D9007 cable is connected to the NT8D96AE multiport cable (SNN) or the NT1R03AA/BA cable (IPE) at the Meridian MAX end. Figures 5-52 and 5-54 illustrate these connections.

Figure 5-51
Connecting the NAC 2 to a Meridian MAX node—direct connection (SNN)

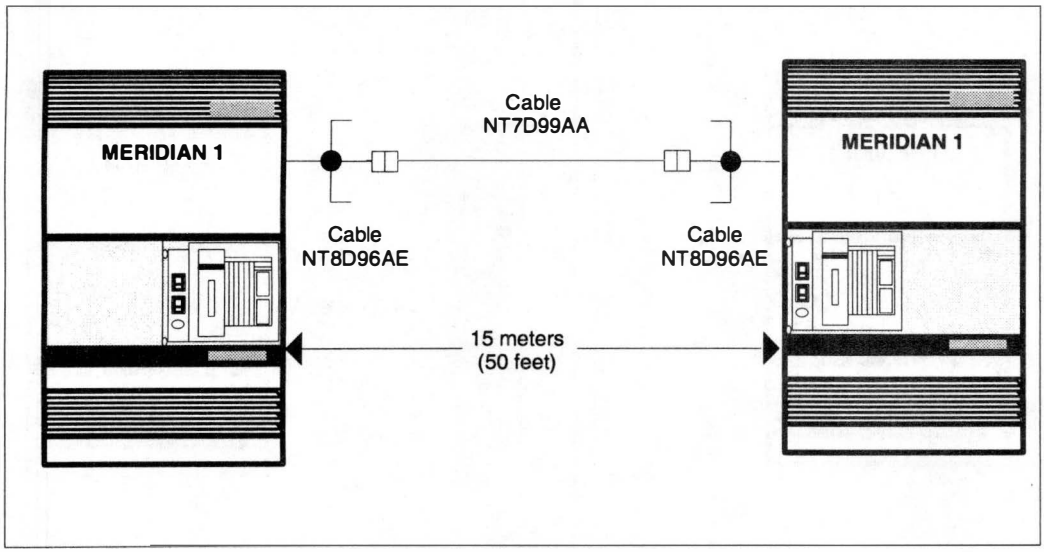


Figure 5-52
Connecting the NAC 1 to a Meridian MAX node—direct connection (SNN)

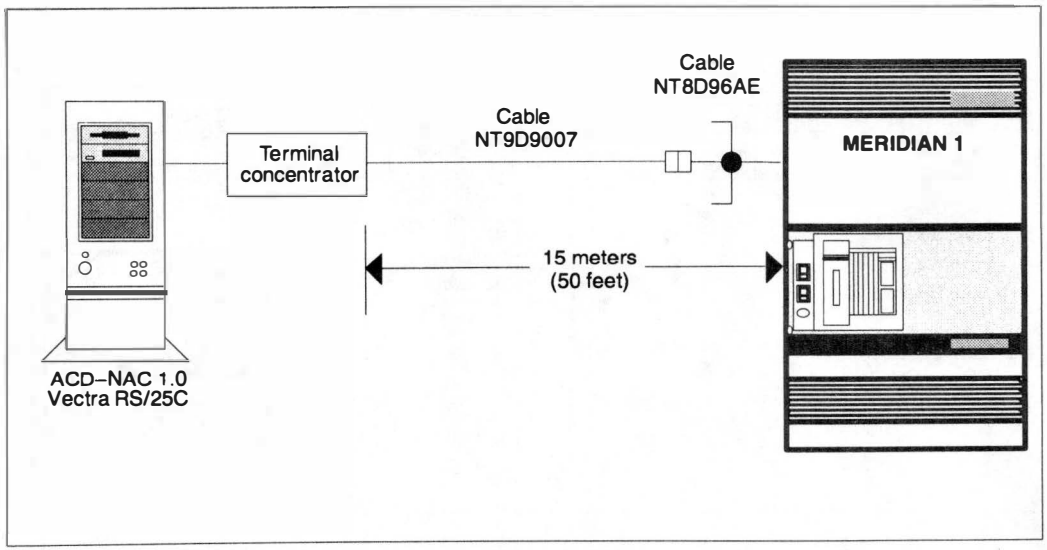


Figure 5-53
Connecting the NAC 2 to a Meridian MAX node—direct connection (IPE)

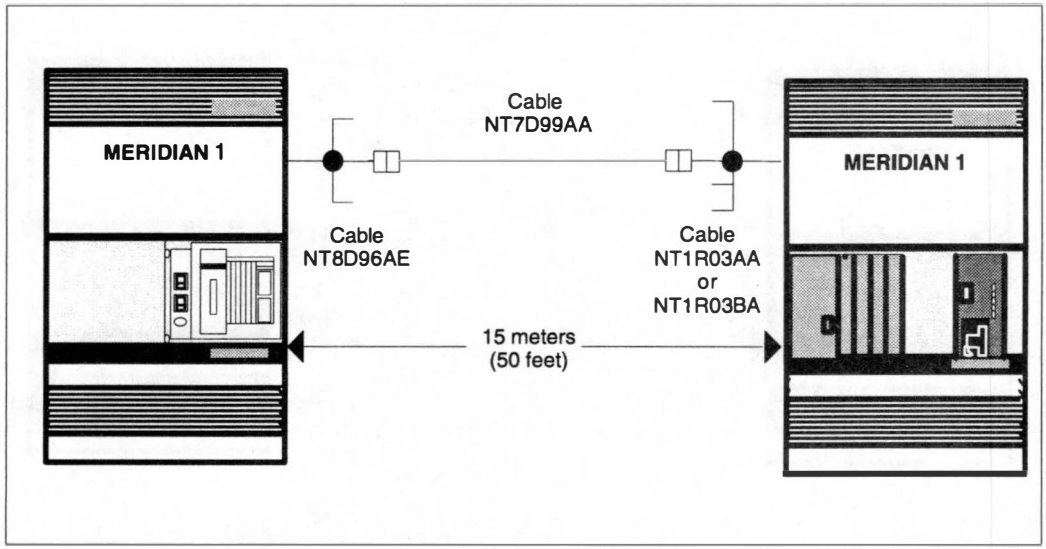
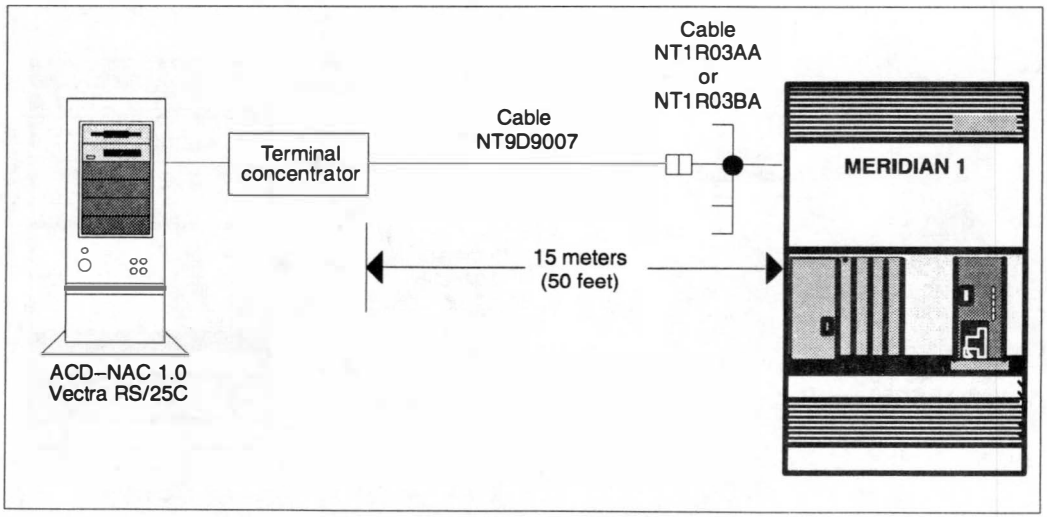


Figure 5-54
Connecting the NAC 1 to a Meridian MAX node—direct connection (IPE)



Chapter 6: Workstations

Workstations are used by the network supervisors to control the operation of the Meridian MAX system.

Workstations available for the Meridian MAX system can be separated into two categories: personal computers (PCs) and video display terminals (VDTs). Table 6-1 lists each type of workstation and the gender of its serial port.

> *Note:* The maintenance console controls the installation and upgrade procedures, as well as the maintenance and administration programs. This console supports DEC VT520, VT420, VT220, HP 700/32 or 100% compatible display terminals. If your workstation is being used as a system console, a female-to-female gender changer, A0351509, is required.

Table 6-1
Workstations—serial port genders

Workstation type	Gender
PC (running Reflection 4+ for DOS or the Meridian Terminal Emulator)	Male DB-25 or DB-9
DEC VT520, VT420, VT220, HP700/32 (or 100% compatible models)	Male DB-25

PCs supported by the Meridian MAX system are the IBM PS/2, IBM AT (and 100% compatibles) with the following:

- AT-style keyboard
- 512 Kbytes of RAM
- Paradise EGA or VGA card with 256 Kbyte memory

- Two floppy disk drives or one floppy disk drive and hard disk (3.5 in. or 5.25 in. disk drives can be used)
- serial communications port
- PC-DOS/MS-DOS Version 5.0 or higher
- Reflection 4+ for DOS, Meridian Terminal Emulator (MTE) 5.32 for DOS, Meridian Terminal Emulator (MTE) 6 for Windows, or Meridian Terminal Emulator (MTE) 7 for Windows software

The VDTs supported by the Meridian MAX are the DEC VT520, VT420, VT220, and 100% compatibles.

To configure your workstation, refer to the "Workstation, HSL, and LML configuration" chapter, "Workstation configuration" section.

Personal computer workstations

Unpack and assemble the workstation (PC) by following the installation instructions given in the manufacturer's user manual. Perform all setup and diagnostic routines to ensure the viability of the equipment. This includes formatting the hard disk (if present) as the DOS start-up drive.

Install the Reflection 4+ or Meridian Terminal Emulator (MTE) 5.32, 6, or 7 software to the hard disk (if present).

Reflection 4+ and Meridian Terminal Emulator (MTE) 5.32, 6, or 7 can be used on the same Meridian MAX system but not on the same PC.

Connect the workstation to the NT8D96AE cable for the Application Module or the NT1R03AA or NT1R03BA cable for the Intelligent Peripheral Equipment (IPE) module. Refer to the "Cables" section of the "Hardware installation: Application Module" chapter or "Hardware installation: Intelligent Peripheral Equipment (IPE) module" for more information on these cables.

To configure your PC workstation for use with Reflection 4+ or MTE, refer to the "Workstation, HSL, and LML configuration" chapter, "Workstation configuration" section.

Before you start or restart the Meridian MAX, and each time you power up the PC, you must follow the appropriate instructions given below:

Reflection 4+

When this document mentions Reflection 4+, it refers specifically to Reflection 4+ for DOS.

To use a PC to run Meridian MAX 7, you must install either Reflection 4+ for DOS or MTE. Only MTE, not Reflection 4+, can be used if you are connected to a LAN. Refer to your Reflection 4+ user's manual for installation instructions.

> *Note:* If you require international support, Reflection 4+ Release 4.1 or higher is recommended. Only these versions have full international support. Release 3.4 to 4.0 have partial support. Any release below 3.4 does not have international support.

PC without hard disk running Reflection 4+ for DOS

If you are using a PC without a hard disk, power up the PC and insert the DOS operating system disk in Drive A. When the PC boots up, insert the Reflection 4+ operating disk in Drive B, and select Drive B. Enter **R4** to start the Reflection 4+ program.

PC with hard disk running Reflection 4+ for DOS

If you are using a PC with a hard disk, power up the PC. When the PC boots up, switch to the directory which contains the Reflection 4+ program and enter **R4** to start the program.

Meridian Terminal Emulator

Meridian Terminal Emulator (MTE) allows you to access Meridian MAX supervisor sessions through your PC. The PC can be an IBM PC, a 100% compatible AT, or a higher PC.

> *Note:* MTE can be used in a DOS or Windows environment. To use it in a Windows environment, you must have MTE 6 or MTE 7. The Windows environment is described only briefly in this chapter. For details, refer to the *MTE 6 User Guide* (P0815602) or the *MTE 7 User Guide* (P0821303).

MTE with DOS or Windows

In a DOS or Windows environment, MTE has all the functionality of Reflection 4+ with the following capabilities:

- Print data to an ASCII file.

- Print to a local printer attached to your PC.
- Connect to Meridian MAX through a local area network (LAN), a modem, or a serial (RS232) port.
- Customize the colors of the elements on your supervisor screens.

In a Windows environment, MTE 6 or MTE 7 can also be used to do the following;

- Copy text from your Meridian MAX supervisor screens to your Windows clipboard.
- Run Meridian MAX supervisor sessions simultaneously with the MAXcaster forecasting tool.
- Open two Meridian MAX supervisor sessions on a PC running Windows NT or Windows 95.
- Change the size of the font used in the Meridian MAX supervisor screens.
- MTE 7 also provides multiple language support and allows frequently used key sequences to be automated using programmable buttons.

MTE installation requirements — DOS environment

The minimum requirement to use MTE in a DOS environment are

- Microsoft MS-DOS (Version 5 or higher)
- MTE 5.32 or lower
- EGA or VGA card with 256 Kbytes and a color monitor
- minimum 384 Kbytes of RAM
- a LAN connection (if using a network)
- one serial (RS-232) communication port for connection to the Meridian MAX
- one parallel or serial port for attaching a local printer (optional)
- one 5.25" or 3.5" floppy disk drive

MTE installation requirements — Windows environment

The minimum requirements to use MTE in a Windows environment are

- Meridian MAX 5.27

- MTE 6 or MTE 7
- Windows Release 3.1 (with a 386 DX 20 MHz IBM compatible PC), or Windows NT Release 3.51 (with a 486 DX 33 MHz IBM compatible PC).

  MTE 7 also works with Windows 95 (with a 486 DX 33 MHz IBM compatible PC).

- a VGA card with a color monitor
- 1 Mbyte of available RAM
- 2 Mbytes available hard disk space
- modem, one serial (RS-232) communication port for connection to the Meridian MAX, or a LAN connection (if using a network). If you are using a LAN connection, you must also have WinSock 1.1 compliant network operating software.

  Note: If you are upgrading from MTE 5.32 or lower, your FTP software must be a minimum of PC/TCP Release 3.0 (OnNet Release 1.1) installed with the Windows VxD kernel.

MTE 5.32 or lower

MTE 5.32 or lower can be used in with MS-DOS (Version 5 or higher).

ATTENTION

In this chapter, MTE is described only in a DOS environment.

Windows and OS/2 offer a DOS full screen mode or a DOS window mode. MTE can be run in these modes in OS/2 2.1 or DOS under Windows 3.1, with the limitations outlined in this chapter in the "MTE 5.32 or lower with Windows 3.1" and "MTE 5.32 or lower with OS/2 2.1" sections.

It is important to note that these modes are not supported by Nortel.

The Supervisor Display Access (SDA) feature should not be used with MTE.

MTE direct (RS-232) connection

MTE can connect directly to the Meridian MAX with a serial RS-232 using the COM 1 or COM 2 port on a PC. An unused COM port may be used to connect to any other serial device, such as a mouse or serial printer. MTE is required for a direct connection under Windows 3.1 or OS/2 2.1. If a mouse is using the only COM port in the OS/2 environment, the mouse must be disconnected and the mouse driver must be disabled in the OS/2 CONFIG.SYS file.

MTE LAN connection

Meridian MAX 7 provides Ethernet connectivity for supervisor workstations via the industry standard TCP/IP protocol. Other network environments (for example, Token Ring) may also be used via a protocol converter.

LAN connectivity is only supported via PC-based supervisor workstations running MTE. Refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Meridian MAX system" chapter for the maximum number of LAN supervisor workstations allowed for your system.

To run on a LAN, MTE 5.32 or lower requires one of the FTP Software's PC/TCP network products. The following list identifies the minimum versions of FTP Software's PC/TCP software products which can be used with MTE 5.32 or lower:

- FTP Software's PC/TCP network kernel for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)
- FTP Software's PC/TCP Network Software for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)
- FTP Software's PC/TCP Network Software for DOS and Windows, versions 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)
- FTP Software's PC/TCP Network Software for OS/2 version 1.3

  Note: PC/TCP kernel is the minimum requirement for Meridian MAX LAN connectivity. The PC/TCP and the network interface cards must be purchased separately. If you wish to take advantage of other PC/TCP applications, the complete PC/TCP networking software is

required. Other LAN O/S versions of TCP/IP also do not work with MTE.

FTP Software's PC/TCP network kernel provides the LAN interface for MTE and supports multiple types of LAN cards. Meridian MAX has no specific hardware dependency on the type of protocol converter used.

Guidelines for installing PC/TCP

The following guidelines should be observed when installing PC/TCP OnNet 1.1 for DOS/Windows and the PC/TCP Network Software 3.0 for DOS/Windows:

- The PC/TCP software must be installed through DOS (TSR kernel) and not Windows (VxD kernel).
- The PC/TCP software offers applications such as FTP, network printing, connection over modems, exchanging messages, etc. These applications do not need to be installed to operate MTE.
- When installing the PC/TCP, you are prompted to enter a selection regarding network connectivity. When this option appears, you must select the DOS and Windows (TSR kernel) option to allow the software to work properly with MTE.

For information on installing a LAN supervisor workstation, refer to the FTP Software's user guides and the "LAN connectivity with MSI and MTE" chapter.

Packet buffers

If you experience poor response times or periodic connection problems while using MTE on the LAN, you may need to increase the number of packet buffers set aside for the PC/TCP kernel.

Packet buffers are storage areas that the PC/TCP kernel uses for sending or receiving information across the LAN. You need to experiment with your own system to determine the number of packet buffers suitable for your site. Refer to your network operating system guide for more information.

For more information on packet buffers, refer to the FTP Software's user guides and the *Meridian MAX 7 Installation Guide* (NTP 553-4001-111), "LAN connectivity with MSI and MTE" chapter, "Packet buffers" section.

Installing MTE 5.32 or lower

Follow Procedure 6-1 to install MTE 5.32 or lower in a DOS environment.

Procedure 6-1
To install MTE in a DOS environment

1 Insert the MTE distribution disk in the disk drive.

2 Enter the letter of the disk drive containing the distribution disk followed by **install**.

For example, enter a:\install

3 Press **{RETURN}**.

The system displays the following message:

```
Please enter the source directory [A:\] :
```

The default source directory is shown in square brackets.

4 Press **{RETURN}** to accept the default source directory. To indicate a source directory other than the default, enter the letter of the appropriate disk drive followed by **{RETURN}**.

For example, enter D:\

The system displays the following message if the default (A:\) is used:

```
The source directory is A:\.
Please enter the destination directory [C:\MTE] :
```

The source directory appears in the first line. This may be the default directory or the new directory you assigned. The default destination directory is shown in square brackets on the second line. This is the directory where the MTE files will be transferred.

5 Press **{RETURN}** to accept the default destination directory. To indicate a destination directory other than the default, enter the appropriate disk drive and directory followed by **{RETURN}**.

For example, enter D:\MTE.

The system displays the following message:

```
Please enter the number corresponding to the version of MTE
that you wish to install.

1.  MTE for MAX 5.25 or lower.
2.  MTE for MAX 5.26 or higher (including MAX 7).

Which version do you wish to install [1,2] ?
```

6 Enter **2** followed by **{RETURN}**.

The system displays the following message:

```
You have selected to install MTE for MAX 5.26 or higher
from directory A:\ to directory C:\MTE.
Is this correct [Y,N] ?
```

The source directory and destination directory appear in the message. These may be the defaults or the new directories you assigned.

7 If the information is not correct, go to Step 8. If the information is correct, go to Step 11.

8 If the information is not correct, enter **N** followed by **{RETURN}**.

The system displays the following message:

```
Do you wish to quit [Y,N] ?
```

9 If you want to exit from the MTE installation program, enter **Y** followed by **{RETURN}**. It is not necessary to read the remaining steps.

or

If you want to continue with the MTE installation program, enter **N** followed by **{RETURN}**.

The system displays the following:

```
Please enter the source directory [A:\] :
```

10 Return to Step 4.

11 Enter **Y** followed by **{RETURN}** if the information is correct.

The system displays the following message:

```
    1 file(s) copied
    1 file(s) copied
MTE for MAX 5.26 or higher is now installed in C:\MTE.
```

The MTE program is installed.

Starting and exiting MTE

Follow Procedure 6-2 to start MTE after it has been installed.

Procedure 6-2
To start MTE

1 Display the DOS prompt.

In Windows and OS/2, this requires going to the DOS full screen. This permits the graphical information to be properly displayed.

2 Change the DOS directory to the one in which you installed the MTE software.

For example: CD C:\MTE

3 Enter **MTE** followed by **{RETURN}**.

Follow Procedure 6-3 to exit from MTE. This procedure is identical regardless of the operating environment being used.

Procedure 6-3
To exit from MTE

1 Simultaneously press **{CONTROL}{ALT}{X}.**

This key combination returns control to the DOS prompt.

MTE 5.32 or lower with Windows 3.1

To use MTE in a Windows environment, you should have MTE 6 or MTE 7. With the limitations outlined in this section, however, you can also use MTE 5.32 or lower to access Meridian MAX under Windows 3.1 in a DOS full screen mode or a DOS window mode.

> ***Note:*** Although Windows 3.1 supports concurrent execution of more than one application, it is recommended that no other application be running while MTE is operating. MTE may crash if other applications are running at the same time. Running MTE under Windows can also cause protection violation errors and workstation lockups.

PIF file settings

To run MTE under DOS in Windows, it is recommended that you create PIF files using the Microsoft Windows PIF Editor. Figure 6-1 and Figure 6-2 provide the recommended settings for the general and advanced PIF files. For more information on the PIF files, refer to the Microsoft Windows user guides.

Figure 6-1
MTE 5.32 setup screen—LAN connection – general

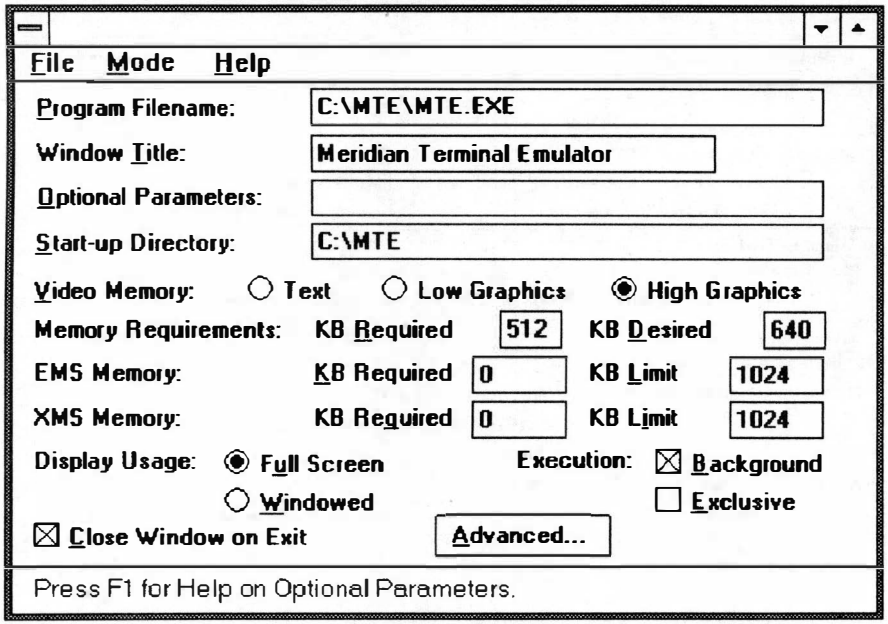
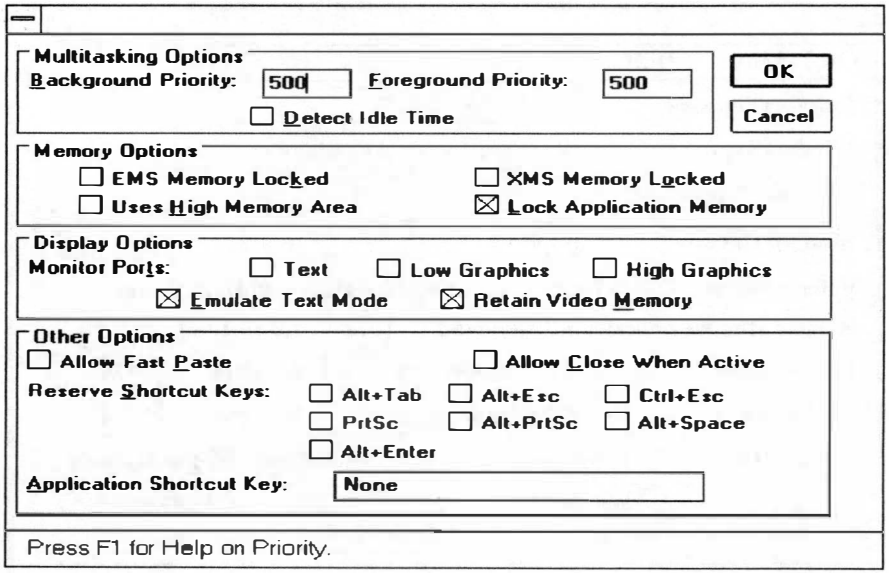


Figure 6-2
MTE 5.32 setup screen—LAN connection – advanced



Minimum requirements

The minimum requirements for running MTE under DOS in Windows using a direct (RS-232) connection are

- 80386 PC
- 512 Kbytes of free memory (for MTE)
- one serial (RS-232) port
- Windows 3.1 and a color VGA display

The minimum requirements for running MTE under DOS with Windows using a LAN connection are

- 80386 PC
- 512 Kbytes of free memory (for MTE)
- FTP Software's PC/TCP Network Software for DOS and Windows version 2.1 or higher with a PC/TCP supported LAN card
- Windows 3.1 and a color VGA display

Display

Graphics in MTE, such as the initial graphical display and the graphical report preview, are quicker to view from a DOS full screen than a DOS window mode. The DOS window mode also may not be large enough to view the graphic displays at times.

Colors of graphical reports are different when previewing in a DOS window mode than in a DOS full screen.

Limitations on multiple sessions

It is not recommended that multiple sessions of MTE be run under Windows. However, the following limitations should be remembered if you choose to run multiple sessions:

- Only one MTE session can be used if local printing is required. Local printing does not work when there are multiple MTE sessions running on the same PC, which are connected to the same Meridian MAX via a LAN connections.
- When multiple MTE sessions are started from the same MTE directory, they share the same MTE.CFG file. Any changes made in the MTE setup screen are not saved unless the [Save] key is pressed. The changes saved in one MTE session may overwrite the changes made by another concurrent MTE session. Changes to the MTE.CFG file do not affect any other active MTE sessions until they are terminated and restarted.

MTE 5.32 or lower with OS/2 2.1

MTE 5.32 or lower can be used, with some limitations, under OS/2 2.1 in a DOS window mode or a DOS full screen mode.

Minimum requirements

The minimum requirements for running MTE with OS/2 using a direct (RS-232) connection are

- 80386 PC
- 512 Kbytes of free memory (for MTE)
- one serial (RS-232) port
- OS/2 2.1
- color VGA display

The minimum requirements for running MTE with OS/2 using a LAN connection are

- 80386 PC
- 512 Kbytes of free memory (for MTE)
- FTP Software's PC/TCP Network Software for OS/2 version 1.3 or higher with a PC/TCP supported LAN card
- OS/2 2.1
- color VGA display

Display

Colors of graphical reports are different when previewing in a DOS window mode than in a DOS full screen.

Limitations on multiple sessions

It is not recommended that multiple sessions of MTE be run under OS/2. However, the following limitations should be remembered if you choose to run multiple sessions:

- The maximum number of MTE sessions are limited by available system resources in OS/2. If local printing is required, only one MTE session should be connected to the same Meridian MAX.
- When multiple sessions are used, multiple copies of MTE.EXE and MTE.CFG should be stored in different directories because there may be different MTE.CFG settings.

Keyboard language configuration on PCs

If you are using a language-specific keyboard, you must inform MS-DOS as to which keyboard you are using. The following example applies to both Reflection 4+ and MTE.

AUTOEXEC.BAT changes

The following example shows the changes to the AUTOEXEC.BAT file in order to support a language-specific keyboard.

The following example assumes a German keyboard is being used as specified by the GR option to the KEYB command:

```
C:\DOS\KEYB GR
```

Refer to your MS-DOS user guide for the language code for your keyboard.

Code Page 850 configuration

To provide international support (ISO Latin 1) for MTE, some minor modifications are required to your PC configuration. These changes affect the MS-DOS files named CONFIG.SYS and AUTOEXEC.BAT. In order to make these changes, you require a text editor such as the MS-DOS editor.

MS-DOS comes with different character sets called code pages. Code pages are similar to the character sets used in the DEC terminals.

Each code page consists of 256 characters and is assigned a number that corresponds to a particular country or language. MTE requires your PC to be configured with Code Page 850 which is a multilingual character set.

If you are using a language-specific keyboard, you need to inform MS-DOS which keyboard you are using. Refer to the "Keyboard language configuration on PCs" section for instructions.

The example changes shown below assume that MS-DOS has been installed in the C:\DOS sub-directory and that the files DISPLAY.SYS and COUNTRY.SYS are located in the C:\DOS sub-directory.

CONFIG.SYS changes

The following example shows the changes to the CONFIG.SYS file needed to support the DOS Code Page 850 on a PC.

In this example, the PC is running to be Germany (country code 049). For your specific country code, refer to your MS-DOS user guide.

```
DEVICEHIGH = C:\DOS\DISPLAY.SYS CON:=(ega,850)
COUNTRY    = 049,850,C:\DOS\COUNTRY.SYS
```

AUTOEXEC.BAT changes

The following example shows the changes to the AUTOEXEC.BAT file in order to support the DOS Code Page 850 on a PC.

```
C:\DOS\MODE CON CP PREPARE=((850) C:\DOS\EGA.CPI)
C:\DOS\NLSFUNC C:\DOS\COUNTRY.SYS
CHCP 850
```

Video display terminal workstations

Five types of video display terminal (VDT) workstations are supported for Meridian MAX:

- DEC VT520
- DEC VT420 (North American model)
- DEC VT420 (Worldwide model)
- DEC VT220
- HP 700/32

Note: To differentiate between the North American and Worldwide models of the VT420, view your workstation's set-up directory. If there is a keyboard option, you are using the worldwide model. If there is no keyboard option, you are using the North American model.

Other models may be used but they must be 100% compatible with one of the models listed. Setups may differ slightly depending on the version of the workstation.

Note: Printer setups are not supported for the DEC and HP VDTs. Local printers are only supported on PCs running the Meridian Terminal Emulator (MTE).

To configure your VDT, refer to the "Workstation, HSL, and LML configuration" chapter, "Workstation configuration" section.

DEC VT520 or 100% compatible

Follow Procedure 6-4 to set up the DEC VT520 workstation.

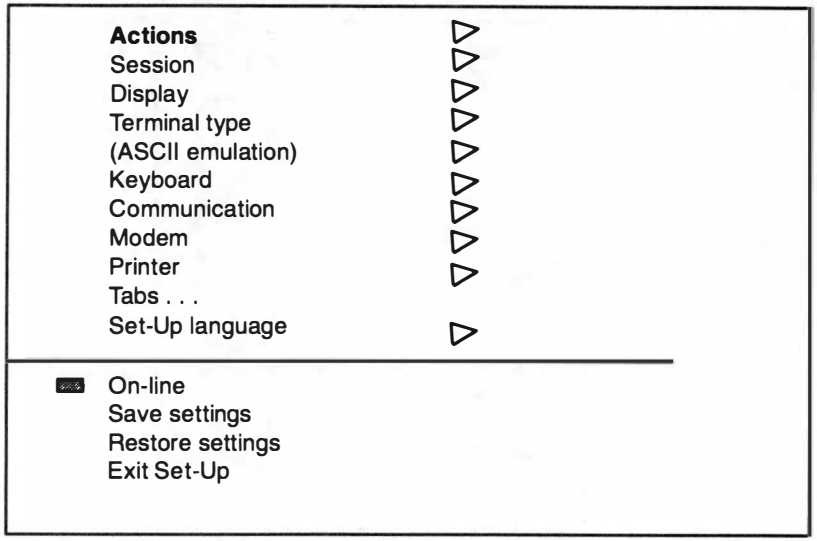
Procedure 6-4
To set up a VT520 or 100% compatible terminal

1 Power on the terminal.

2 Enter setup mode by pressing the {SETUP} key located on the top row of function keys. If no key is marked {SETUP}, press the third key from the left on the top row.

The main set-up window is displayed (see Figure 6-3).

Figure 6-3
VT520 terminal main set up window



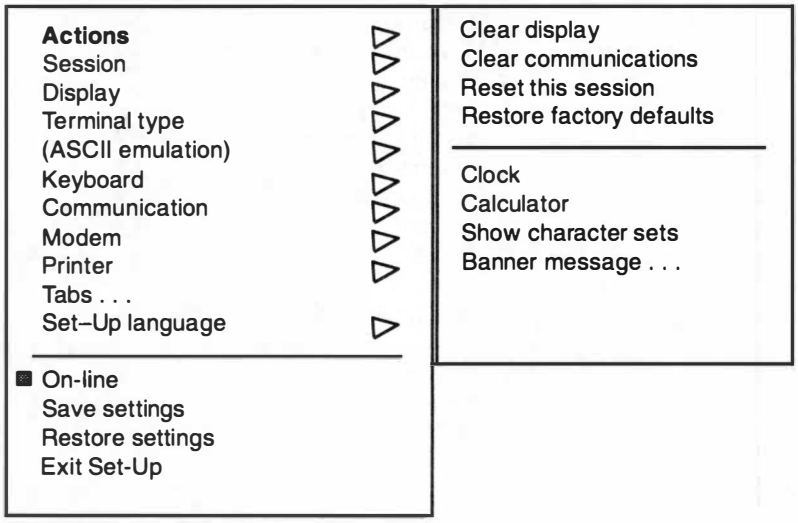
3 Use the up and down arrow keys to highlight the setup feature which is to be changed (for example, Actions).

4 When the setup feature is highlighted, use Table 6-2 to select the appropriate settings:

Table 6-2
Navigating the setup windows

If	then
a solid triangle appears beside the setup feature	use the right arrow key to automatically display the pop-up window of associated settings. See Figure 6-4 for an example.
a box appears beside the setup feature	press {RETURN} to toggle the setting for the selected feature on or off. A diagonal line appears in the box when the setting is on.
three dots (. . .) appear beside the setup feature	press {RETURN} to display the associated pop-up window. When all fields have been completed, move the cursor to [OK] or [Cancel], and press {RETURN} again to activate your choice.

Figure 6-4
VT520 terminal - sample feature pop-up window



Note: Options shown in parentheses are dimmed on the screen.

5 Configure the terminal to match mandatory settings in Table 6-3. If no setting is specified, select the parameter which best suits your environment.

6 Press {SETUP} again to exit setup mode.

Table 6-3
VT520 setup values

Setup feature	First level	Mandatory setting or description
Actions	Clear display	Press {RETURN} to clear the display.
	Clear communications	Press {RETURN} to clear communications.
	Reset this session	Press {RETURN} to reset this session.
	Restore factory defaults	Press {RETURN} to restore the factory default.
	Clock	Press {RETURN} to set the VT520 clock.
	Calculator	Press {RETURN} to use the VT520 calculator.
	Show character sets	Press {RETURN} to display character sets.
	Banner message . . .	Press {RETURN} to set the banner message.
Session	Select session	Session 1
	Session name . . .	Optional user text
	Pages per session . . .	04 pages maximum
	Soft char sets/session	Two each S1 and S2
	Save settings for all	
	Restore settings for all	
	Copy settings from	
	Update session	When available
Display	Lines per screen	24, 25, or 26
	Lines per page	24 lines X 04 pages
	Review previous lines	OFF
	Columns per page	80 columns, Clear on change
	Status display	Local status

–continued–

Table 6-2
VT520 setup values (continued)

Set-up feature	First level	Mandatory setting or description
Display (continued)	Scrolling mode	Jump
	Screen background	Dark
	Cursor display	Block, Blink
	Cursor coupling	Set to "Vertical" and "Page"
	Cursor direction	Left to right
	Copy direction	Left to right
	Zero	Select style of zero you want to display.
	Auto Wrap	
	New line mode	
	Lock user preferences	
	Show control characters	
	CRT saver	15 minutes
	Energy saver	15 minutes
	Overscan	
	Framed windows	
	Screen alignment	
Terminal type	Emulation mode	VT520 VT420 VT320 VT220
	Terminal ID to host	VT520
	VT default char set	ISO Latin-1
	PC Term character set	PC International (437)
	(7-bit NCRS characters)	
	Transmit 7-bit control	
(ASCII emulation)		
Keyboard	VT Keyboard language	Select appropriate language—North American

–continued–

Table 6-2
VT520 setup values (continued)

Set-up feature	First level	Mandatory setting or description
Keyboard (continued)	(PC Keyboard language)	
	Define key . . .	Use Define Key Editor screen to set the following: F1=Hold Ignore Alt F2=Print ,< and .> Keys F3=Setup <> Key F4=Session '~ Key F5=Break
	Save key definitions	
	Recall key definitions	
	Lock key definitions	
	Caps lock function	Caps lock
	Keyclick volume	High
	Warning bell volume	High
	Margin bell volume	OFF
	Keyboard encoding	Character (ASCII)
	Auto Repeat	Fast (30/sec)
	Data processing keys	
	Application cursor keys	
	Application keypad mode	
	(Map PC keyboard to VT)	
	Ignore missing keyboard	
Communication	Port select . . .	See Figure 6-5.
	Word size	8 bits
	Parity	None
	Stop bits	1 bit
	Transmit speed	9600 baud
	Receive speed	Transmit speed

–continued–

Table 6-2
VT520 setup values (continued)

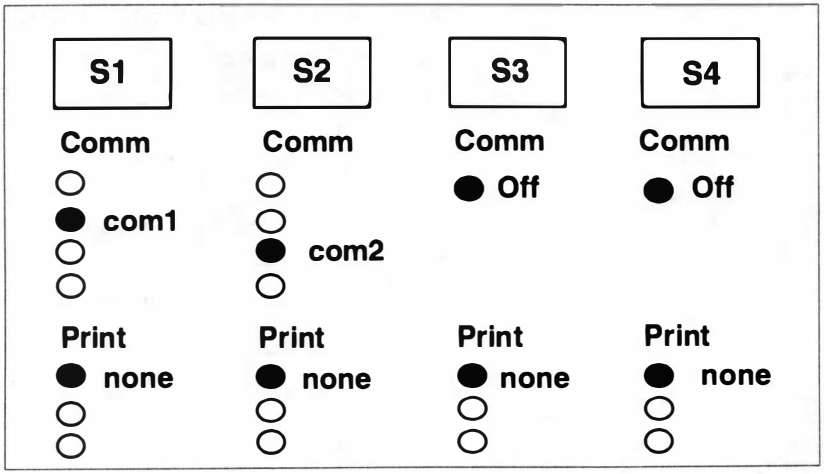
Set-up feature	First level	Mandatory setting or description
Communication (continued)	Transmit flow control	XON/XOFF
	Receive flow control	XON/XOFF or XPC
	Flow control threshold	Low (64)
	Transmit rate limit	150 cps
	Fkey rate limit	150 cps
	Ignore Null character	ON
	Local echo	
	Half duplex	
	Auto answerback	OFF
	Answerback message . . .	Enter the answerback message.
	Answerback concealed	
Modem	Enable modem control	
	(Disconnect delay)	
	(Modem high speed)	
	(Modem low speed)	
Printer	Port select . . .	See Figure 6-5.
	Print mode	Normal
	Printer type	DEC ANSI
	DEC/ISO char sets	National only
	(PC character sets)	
	Print extent	Full page
	Print terminator	None
	Serial print speed	4800 baud
	2-way communication	OFF

–continued–

Table 6-2
VT520 setup values (continued)

Set-up feature	First level	Mandatory setting or description
Printer (continued)	Transmit flow control	XON/XOFF
	Receive flow control	XON/XOFF
	Word size	8 bits
	Parity	None
	Stop bits	1 bit
Tabs	Tabs Set–Up Screen	
Set-Up language		User dependent
On-line		ON
Save settings		When settings are complete, push <Enter> to save.
Restore settings		
Exit Set-Up		
–end–		

Figure 6-5
Port selection for VT520



DEC VT420 or 100% compatible (North American model)

Follow Procedure 6-5 to set up the DEC VT420 (North American model) workstation.

Procedure 6-5
To set up a VT420 or 100% compatible terminal (North American model)

1 Refer to the vendor's manual for installation instructions.

2 The video display terminal (VDT) is connected to the SNN's VME multiport cable or the IPE's four-port I/O cable using an NT8D96AE (SNN) or NT1R03Ex (IPE) (male to female) cable. Refer to the appropriate port assignment table for valid port assignments.

3 Power on the terminal and press the **{SET-UP}** key.

The VDT manual contains instructions on setting up the workstation's options.

4 Follow the settings in Figure 6-6 to configure a DEC VT420 North American model.

*Each directory shown in these figures has its own screen and displays the correct setting for each field. If any of the fields shown differ from those on your screen, cursor to the field and press **{RETURN}** until the correct information is displayed.*

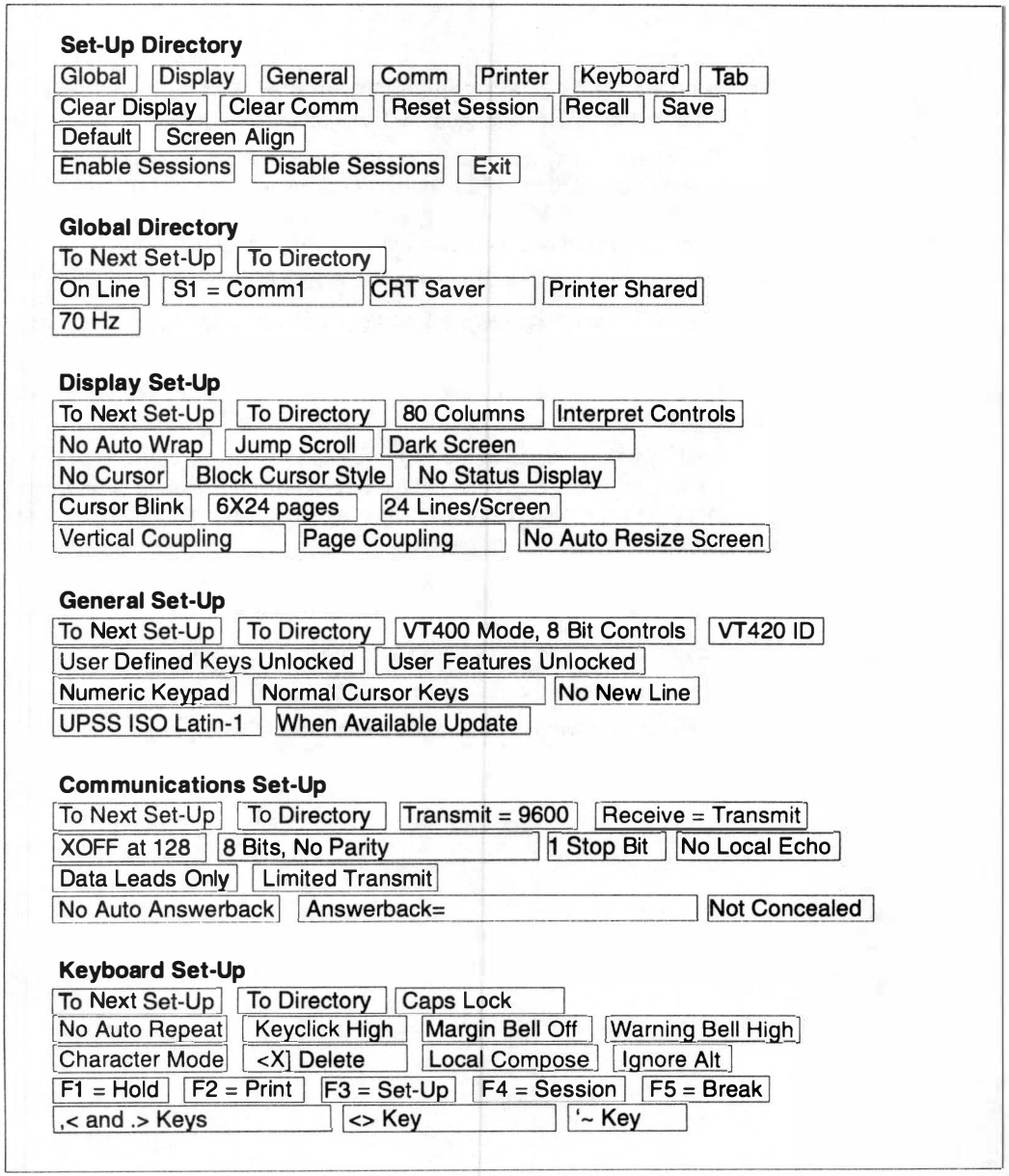
5 To move to the next setup screen, cursor to *To Next Set-up* and press **{RETURN}.**

6 Move the cursor to *To Directory* and press **{RETURN}**.

7 Move the cursor to *Save* and press **{RETURN}**.

8 To exit after saving the settings, press the **{SET-UP}** key.

Figure 6-6
DEC VT420 workstation (North American model) Version 1.3 or greater setup



DEC VT420 or 100% compatible (Worldwide model)

Follow Procedure 6-4 to set up the DEC VT420 (Worldwide model) workstation.

Procedure 6-6
To set up a VT420 or 100% compatible terminal (Worldwide model)

1 Refer to the vendor's manual for installation instructions.

2 The video display terminal (VDT) is connected to the SNN's VME multiport cable or the IPE's four-port I/O cable using an NT8D96AE (SNN) or NT1R03Ex (IPE) (male to female) cable. Refer to the appropriate port assignment table for valid port assignments.

3 Power on the terminal and press the **{SET-UP}** key.

The VDT manual contains instructions on setting up the workstation's options.

4 Follow the settings in Figure 6-7 to configure a DEC VT420 Worldwide model.

*Each directory shown in these figures has its own screen and displays the correct setting for each field. If any of the fields shown differ from those on your screen, cursor to the field and press **{RETURN}** until the correct information is displayed.*

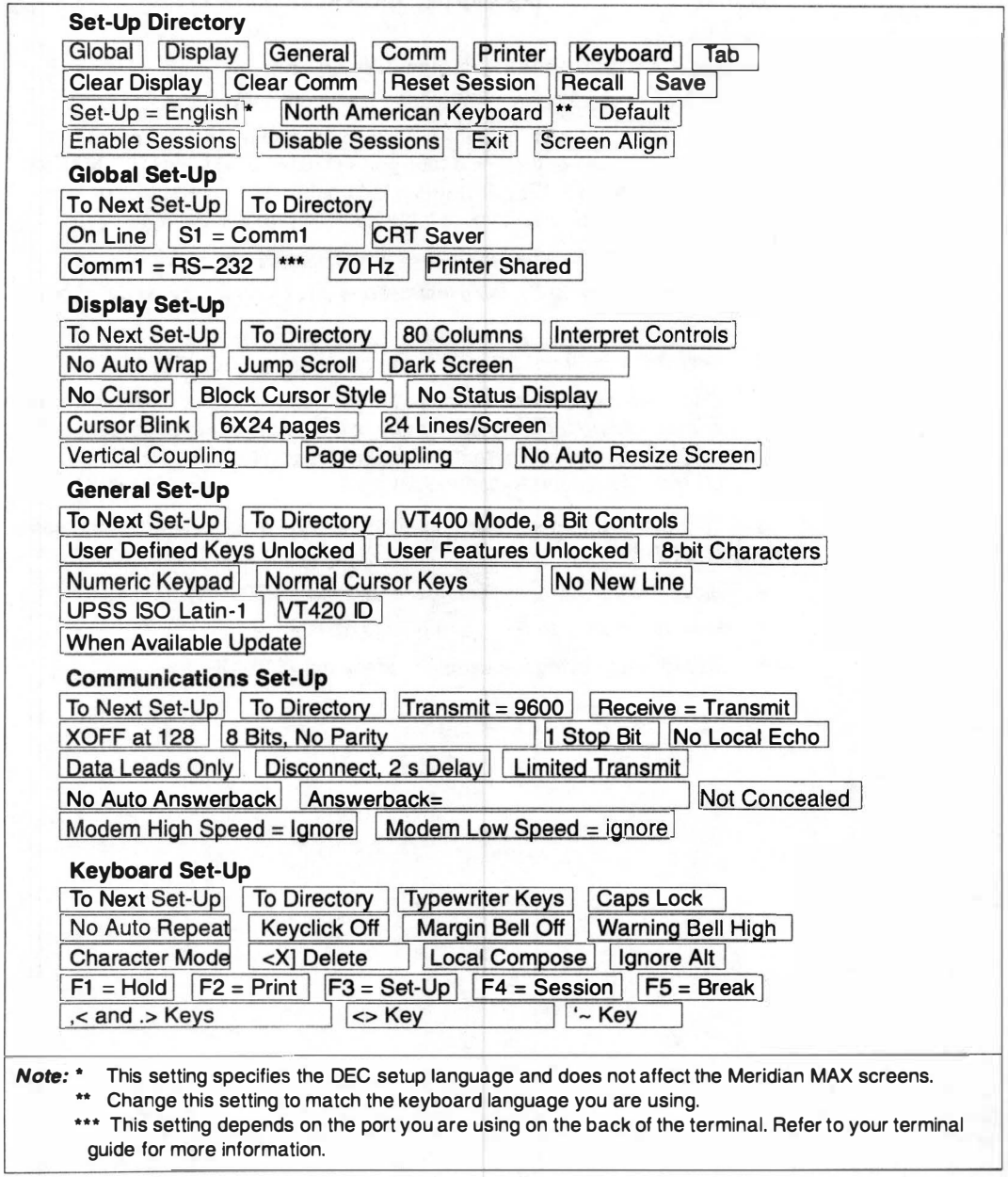
5 To move to the next setup screen, cursor to *To Next Set-up* and press **{RETURN}.**

6 Move the cursor to *To Directory* and press **{RETURN}**.

7 Move the cursor to *Save* and press **{RETURN}**.

8 To exit after saving the settings, press the **{SET-UP}** key.

Figure 6-7
DEC VT420 workstation (Worldwide model) setup



Note: * This setting specifies the DEC setup language and does not affect the Meridian MAX screens.
** Change this setting to match the keyboard language you are using.
*** This setting depends on the port you are using on the back of the terminal. Refer to your terminal guide for more information.

DEC VT220 or 100% compatible

Follow Procedure 6-7 to set up the DEC VT220 workstation.

Procedure 6-7
To set up a VT220 or 100% compatible terminal

1 Refer to the vendor's manual for installation instructions.

2 The video display terminal (VDT) is connected to the SNN's VME multiport cable or the IPE's four-port I/O cable using an NT8D96AE (SNN) or NT1R03Ex (IPE) (male to female) cable. Refer to the appropriate port assignment table for valid port assignments.

3 Power on the terminal and press the **{SET-UP}** key.

The VDT manual contains instructions on setting up the workstation's options.

4 Follow the settings in Figure 6-8 to configure a DEC VT220 VDT.

*Each directory shown in Figure 6-8 has its own screen and displays the correct setting for each field. If any of the fields shown differ from those on your screen, cursor to the field and press **{RETURN}** until the correct information is displayed.*

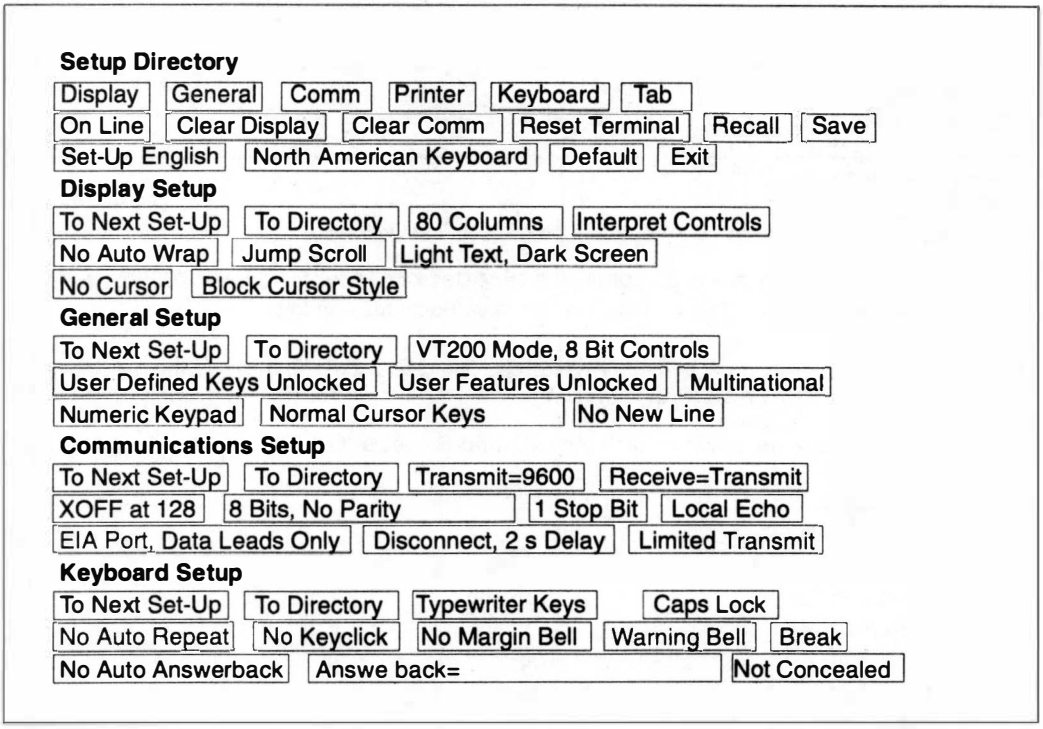
5 To move to the next setup screen, cursor to *To Next Set-up* and press **{RETURN}.**

6 Move the cursor to *To Directory* and press **{RETURN}**.

7 Move the cursor to *Save* and press **{RETURN}**.

8 To exit after saving the settings, press the **{SET-UP}** key.

Figure 6-8
DEC VT220 workstation setup



HP 700/32 or 100% compatible

Perform Procedure 6-8 to setup an HP 700/32 or 100% compatible workstation.

Procedure 6-8
To set up a HP 700/32 workstation

Step	Action
1	Refer to the vendor's manual for installation instructions.
2	Power on the terminal and press the **{Set-Up}** key. Refer to your HP 700/32 user's manual for instructions on setting up the workstation's options. To move to the next setup screen, press **{Next Screen}**. To move to the previous setup screen, press **{Prev Screen}**.
3	Ensure that the options match the following Global settings: **GLOBAL** •Host Port — 1 •Background — Dark •Screen Saver — 15 Min •Refresh Rate — 72 Hz •Key Click — No •Keyboard — U.S. * •Message Translations — English •Setup Translations — English ** •Clear Display — (not applicable) •Clear Comm — (not applicable) •ROM revision — 5181-5672-3014 *** * Change this setting to match the keyboard language you are using. ** This setting specifies the language of the HP 700/32 setup screens, but does not affect the Meridian MAX screens. *** This setting depends upon the version of terminal you are using.
4	To save the Global settings, press the **[SAVE MENU]** key.

— continued —

Procedure 6-8 (continued)
To set up a HP 700/32 workstation

Step	Action
5	Ensure that the options match the following User settings: **USER** •Smooth Scroll — Jump •Cursor Type — Blink Box •Cursor — Off •2nd Message Line — Off •Message Line — Off •Status Line — Off •On Line — Yes •Local Echo — Off •Auto Wrap — Off •Auto Linefeed — Off •Display Ctrl Codes — Off •Display Width — 80 •Display Width Allowed — 80 or 132 •Char Cell Height — 16 Dots •Clr on Width Change — Yes •Aux Mode — Off •Aux To Host — No •Print Terminator=FF — No •Logical Page Size — 24 •Number of Pages — 1
6	To save the User settings, press the **[SAVE MENU]** key.

— continued —

Procedure 6-8 (continued)
To set up a HP 700/32 workstation

Step	Action
7	Ensure that the options match the following Emulation settings: **EMULATION** •Emulation — VT320 •Terminal Id — VT220 •Control Codes — 8-Bit •Characters Mode — 8-Bit •Preferred Char Set — ISO 8859-1 Latin •Keypad Mode — Numeric •Cursor Keys — Normal •Print Scroll Region — Off •User Features Locked — No •User Keys Locked — No •Data Processing Keys — No
8	To save the Emulation settings, press the **[SAVE MENU]** key.
9	Ensure that the options match the following Port 1 settings: **PORT 1** •Communication — Full Duplex •Data Length — 8 bits •Parity — None •Stop Bits — 1 •Xmit Baud — 9600 •Recv Baud — =Xmit •Xmit Pace — Xon/Xoff •Recv Pace — Xoff at 128 •Limited Transmit — On •DSRI — No •CTS — Ignore •CD — Ignore •Break Duration — 170 ms •Disconnect Delay — 2 sec •Aux Printer Type — National

— continued —

Procedure 6-8 (continued)
To set up a HP 700/32 workstation

Step	Action
10	To save the Port 1 settings, press the **[SAVE MENU]** key.
11	Ensure that the options match the following KeyBrd Menu settings: **KEYBRD Menu** •Lock Key — Caps Lock •Kbd Lock Enable — Yes •Save Tabs — Yes •Auto Repeat — No •Margin Bell — No •Warning Bell — Yes •Auto Answerback — No •Answerback= — [blank] •Conceal Answerback — No •Clear All Tabs — (not applicable) •Set 8 Column Tabs — (not applicable) •Tab Setting — (not applicable)
12	To save the Keybrd Menu settings, press the **[SAVE MENU]** key.
13	To exit the setup screen, press the **{Set-Up}** key.

—end—

Chapter 7: Printers

There are ten types of printers that can be used by the Meridian MAX:

- DEC LA195 (does not support international languages)
- HP RuggedWriter
- HP LaserJet series II
- HP LaserJet series III
- HP LaserJet series 4
- HP LaserJet series 4 Plus
- HP PaintJet 3630
- HP DeskJet
- HP DeskJet 500
- HP DeskJet 560C (with serial-parallel converter)
- HP DeskJet 660C (with serial-parallel converter)

The serial port gender of each printer is a female DB-25 with the exception of the LaserJet 4 Plus. The LaserJet 4 Plus serial port gender is a female DB-9 requiring a 25- to 9-pin serial cable adapter. This adapter can be obtained through HP or one of its distributors.

Obtain the installation instructions from the user's manual for your printer. Ensure that the settings for your printer(s) are correct as described here.

> ***Note 1:*** Before a printer can be fully disconnected, the printer must be taken off line, powered off, and the serial interface connector removed. Before a printer is connected and powered up, ensure the interface is connected and secured, the power cord installed, the printer is powered on, and the printer is on-line.

Note 2: Before a printer can be unplugged, the printer must be taken off line and then powered off. When plugging in the printer, insert the plug, power on the printer, and put the printer back on line.

Installing a local printer

Local printing provides you with the ability to send a report to a printer locally attached to a supervisor's PC workstation running Meridian Terminal Emulator (MTE).

Use the procedure 7-1 to install a local printer. Before beginning, make sure your PC is connected to the Meridian MAX system.

Note: Local printers are not assigned through the Meridian MAX Communication Port Assignment screen. Local printers appear on the port assignment screen after they are assigned through the local printer control window shown in Figure 7-2. Local printers should only be used for small print jobs such as ad hoc printing.

Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811) "Maintenance and administration programs: system shutdown" chapter, "Configure Meridian MAX system" section, "MAX Hardware Configuration" subsection, for more information on the Meridian MAX Communication Port Assignment screen.

Procedure 7-1
To install a local printer

1 Decide which printer you want to use as your local printer.

2 Decide if you want to connect the printer to the PC via a serial RS-232 connection or through a parallel connection.

For a serial connection you need either a DB-9 female to DB-25 male cable or a DB-25 female to DB-25 male cable.

For a parallel connection you need a DB-25 female to Centronics cable (also known as a PC parallel printer cable).

3 Configure your printer based on the individual configuration procedures.

Refer to the subsection on your selected printer in the "Printers" chapter.

If you are running MTE 5.32 or lower, use procedure 7-2 to set up local printing.

If you are running MTE 6, refer to the *MTE 6 User Guide* (P0815602) for information on setting up a local printer with MTE 6.

If you are running MTE 7, refer to the *MTE 7 User Guide* (P0821303) for information on setting up a local printer with MTE 7.

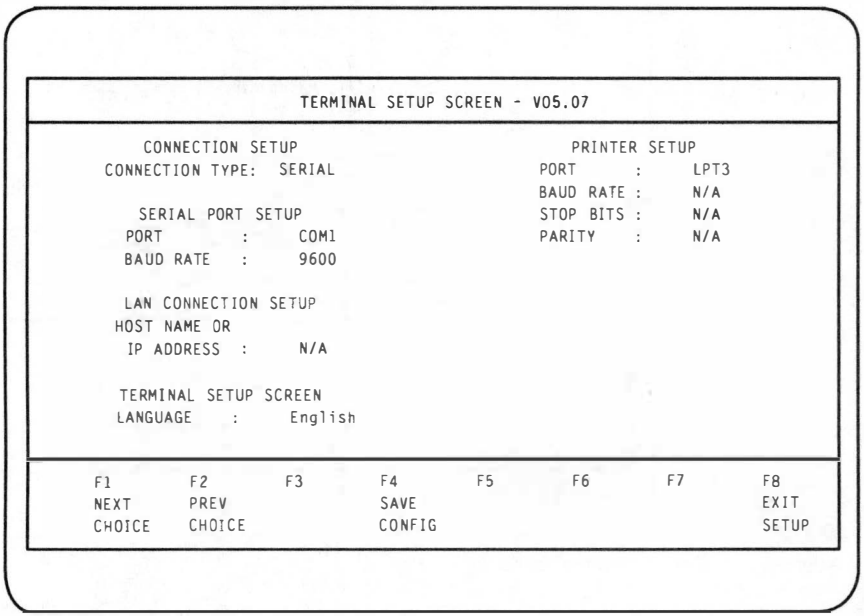
Procedure 7-2
To set up local printing with MTE 5.32 or lower

1 Install and start the MTE software.

Refer to the "Workstations" chapter, "Personal computer workstations" section, "Meridian Terminal Emulator (MTE) 5.32 or lower" subsection, for the software installation procedure for MTE 5.32 or lower.

2 Notify MTE that a local printer is being used by pressing both left and right {SHIFT} keys simultaneously. This displays the terminal setup screen shown in Figure 7-1.

Figure 7-1
Meridian Terminal Emulator setup screen



3 Use your arrow keys to cursor to the Port field under Printer Setup. Press **[NEXT CHOICE]** to choose the type of connection you wish to use.

If you want a serial connection, choose either COM1 or COM2. Set Baud Rate to "9600", Stop Bits to "1" and Parity to "NONE". These are the default values and shouldn't be changed.

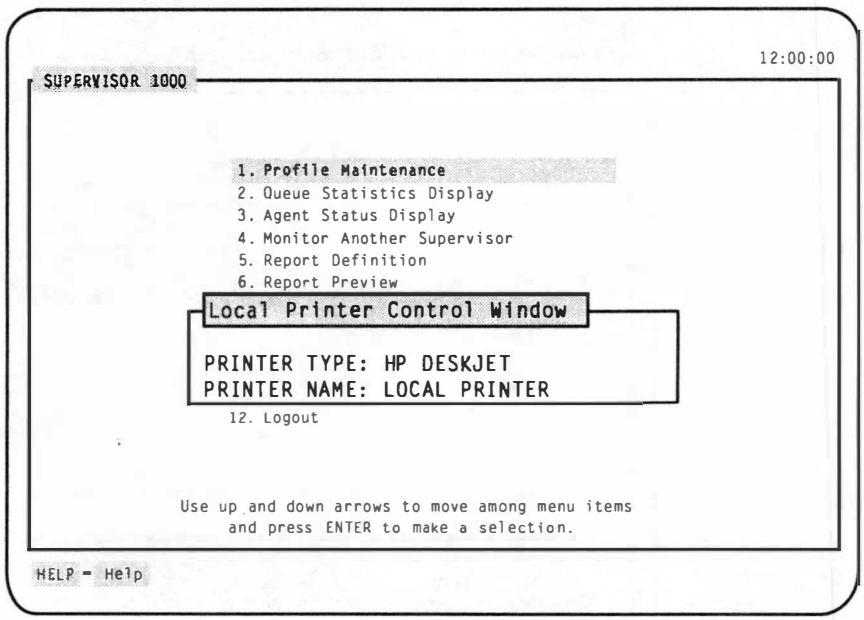
If you want a parallel connection, choose either LPT1 or LPT2.

4 Press **[SAVE CONFIG]** to save your changes.

5 Press **[EXIT SETUP]** to exit the setup screen.

6 Notify Meridian MAX that the PC has a local printer by logging into the system as a supervisor and pressing **{CTRL}{P}** to display the local printer control window, seen in Figure 7-2.

Figure 7-2
Local printer control window



7 Enter a printer type by selecting a printer from the [Options] menu. Type in a printer name of your choice. This name appears on all printer menus. Select "Save changes and exit" from the [Commands] menu.

CAUTION
Risk of printer interruption
If a new local printer is added, all print jobs on all printers are stopped and reprinted in their entirety after the new printer is added.

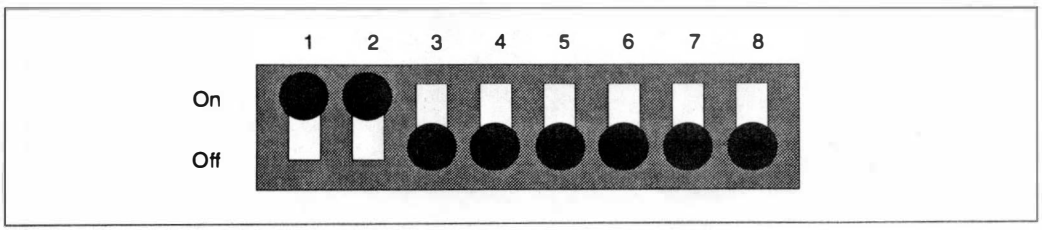
To avoid printer interruptions, add local printers during off-hours or when the printers are in minimal use.

8 At this point, a warning pop-up notice appears notifying you that print jobs on all printers are stopped and reprinted in their entirety after your local printer is added. The system prompts you to proceed. Enter **y**.

Serial-parallel converter

A serial-parallel converter (A0621070) is required for printers that use parallel connections instead of serial connections. The converter uses a 36-pin parallel connector at one end to connect to the printer, and a 25-pin female connector at the other end to connect to the serial cable. The converter requires no external power supply because it is powered by the RS-232 interface. Figure 7-3 shows the correct DIP switch settings for use with the Meridian MAX system.

Figure 7-3
Serial-parallel converter DIP switch settings



CAUTION
Risk of equipment damage
To avoid service interruptions, never use pencils or other graphite tools when changing the position of the DIP switches. Flakes of graphite can enter the switch and damage the printer.

DEC LA195

The DEC LA195 is a dot-matrix printer. This printer can be configured in Epson-mode as configured in the VuePrint Menu System. Epson-mode does not support the international character set but provides faster printing of reports. Table 7-1 lists the correct system setup for use with the Meridian MAX system. Figure 7-4 shows the correct DIP switch settings for use with the Meridian MAX system.

Table 7-1
DEC LA195 system setup

Function	Setting
Install 1:	
Ribbon	Normal
A.S.F.	Off
Emmulation	Epson
Print style:	
Font	Draft
Emphasized	Off
Pitch	10 CPI
Font lock	Off
Page layout:	
Quarter	Off
Line spacing	6 LPI
Form length	Letter
Page skip	Off
Print mode:	
Text dir	Bi-dir
Graphic dir	Uni-dir
AGM mode	Off

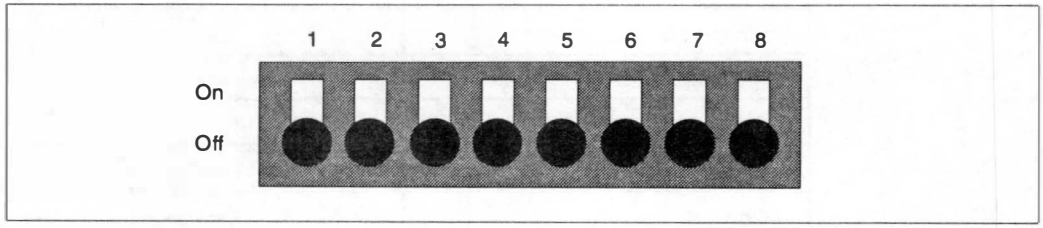
—continued—

Table 7-1 (continued)
DEC LA195 system setup

Function	Setting
Character:	
Slash zero	Off
Character set	Italics
Intl char set	USA
Character set	Set 1
Code page	USA
Install 2:	
Tear off	On
Paper out	Enable
Auto CR	On
Auto LF	Off
Copy mode	Off
Envelope	Off
Language	English

—end—

Figure 7-4
DEC LA195 DIP switch settings



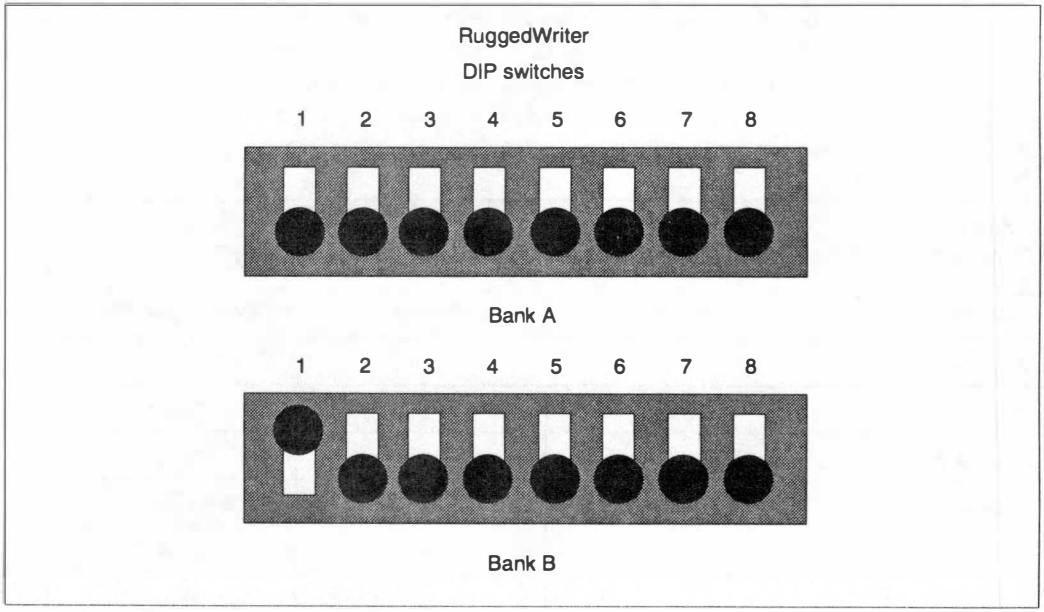
HP RuggedWriter

The RuggedWriter is a dot-matrix printer. This printer can be configured in HP PCL mode or in Epson mode as configured in the Bank B switches. HP PCL mode provides ISO Latin-1 international support as well as higher quality graphics. Epson mode does not support the international character set but provides faster printing of reports. Table 7-2 shows the correct option settings and Figure 7-5 shows the correct DIP switch settings.

Table 7-2
RuggedWriter option switch settings

Function	Setting	Switch	Switch position
Bank A switches:			
Pitch	10 cpi	1	Down
Default MAX	–8	2	Down
Character set		3	Down
		4	Down
		5	Down
Paper path	z-fold	6	Down
Page length	11 inches	7	Down
Print quality	Draft	8	Down
Bank B switches:			
Command set	EPSON	1	Up
	HP PCL	1	Down
RAM allocation	Buffer	2	Down
Perforation skip	Disabled	3	Down
Handshaking	XON / XOFF	4	Down
Parity	None	5	Down
		6	Down
Baud	9600	7	Down
		8	Down

Figure 7-5
RuggedWriter DIP switch settings



HP LaserJet series II, III, 4, and 4 Plus

The LaserJet series II, III, 4, and 4 Plus are laser printers. Table 7-3 shows the correct option settings for the LaserJet series II. Table 7-4 shows the correct option settings for the LaserJet series III. Table 7-5 shows the correct option settings for the LaserJet series 4. Table 7-6 shows the correct option settings for the LaserJet series 4 Plus.

Use the {Menu} key on the front panel to check/set the options. Switch the printer offline, then press the {Menu} key to access the first group of settings. Hold the {Menu} key down for about five seconds (when the printer is off-line) to access the second group of settings. Press the {+} or {–} key until the correct setting appears to change an option. Press the {Enter/Reset Menu} key to save a selection. Press the {Menu} key to continue. Press the {On-line} key to exit the menu.

Note: The HP LaserJet 4 Plus requires a specific HP cable when connecting the printer to a 9-pin serial connector. Contact Hewlett-Packard for more information regarding this cable.

Table 7-3
LaserJet series II printer option settings

Press {Menu} key to view Printing menu
COPIES = 01
MANUAL FEED = OFF
FONT SOURCE = 1
FONT NUMBER = 00
FORM = 066 LINES
Hold {Menu} key five seconds to view Configuration menu
SYM SET = IBM – US
AUTO CONT = OFF
I/O = SERIAL
BAUD RATE = 9600
ROBUST XON = ON
DTR POLARITY = HI

Table 7-4 **LaserJet series III printer option settings**
Press {Menu} key to view Printing menu
COPIES = 1
FONT SOURCE = 1
FONT NUMBER = 00
PAPER = LETTER
ORIENTATION = P
FORM = 066 LINES
MANUAL FEED = OFF
SYM SET = ROMAN8
Hold {Menu} key five seconds to view Configuration menu
AUTO CONT = OFF
I/O = SERIAL
SERIAL = RS-232
BAUD RATE = 9600
ROBUST XON = ON
DTR POLARITY = HI
RET = DARK
PAGEPROTECT = OFF

Table 7-5
LaserJet series IV printer option settings

Press {Menu} key to view Printing menu
COPIES = 1
PAPER = LETTER
ORIENTATION = P
FORM = 66
MANUAL FEED = OFF
RET = DARK
Press {Menu} key once to view PCL menu
FONT SOURCE = I
FONT NUMBER = 45
SYM SET = ISO L1
PAGEPROTECT = OFF
RESOLUTION = 300
*TIMEOUT = 15
Press {Menu} key twice to view Configuration menu
MP TRAY = CLASS
LOCK = NONE
CLR WARN = ON
AUTO CONT = ON
DENSITY = 3
LOW TONER = ON
Press {Menu} key three times to view Printing menu
SERIAL = RS-232
PACING = XON/XOFF
BAUD RATE = 9600
ROBUST XON = ON
DTR POLARITY = HI

Table 7-6
LaserJet series 4 Plus printer option settings

Press {Menu} key to view Printing menu
COPIES = 1
PAPER = LETTER
ORIENTATION = P
FORM = 60
MANUAL FEED = OFF
RET = MEDIUM
ECONOMODE = OFF
Press {Menu} key once to view PCL menu
FONT SOURCE = I
FONT NUMBER = 0
PITCH = 10.00
SYM SET = ROMAN –8
Press {Menu} key twice to view Job menu
RESOLUTION = 600
IO TIMEOUT = 15
PWRSAVE MODE = 30 MIN
Press {Menu} key three times to view Configuration menu
MP TRAY = CLASS
LOCK = NONE
CLR WARN = ON
AUTO CONT = OFF
DENSITY = 3
LOW TONER = CONT
—continued—

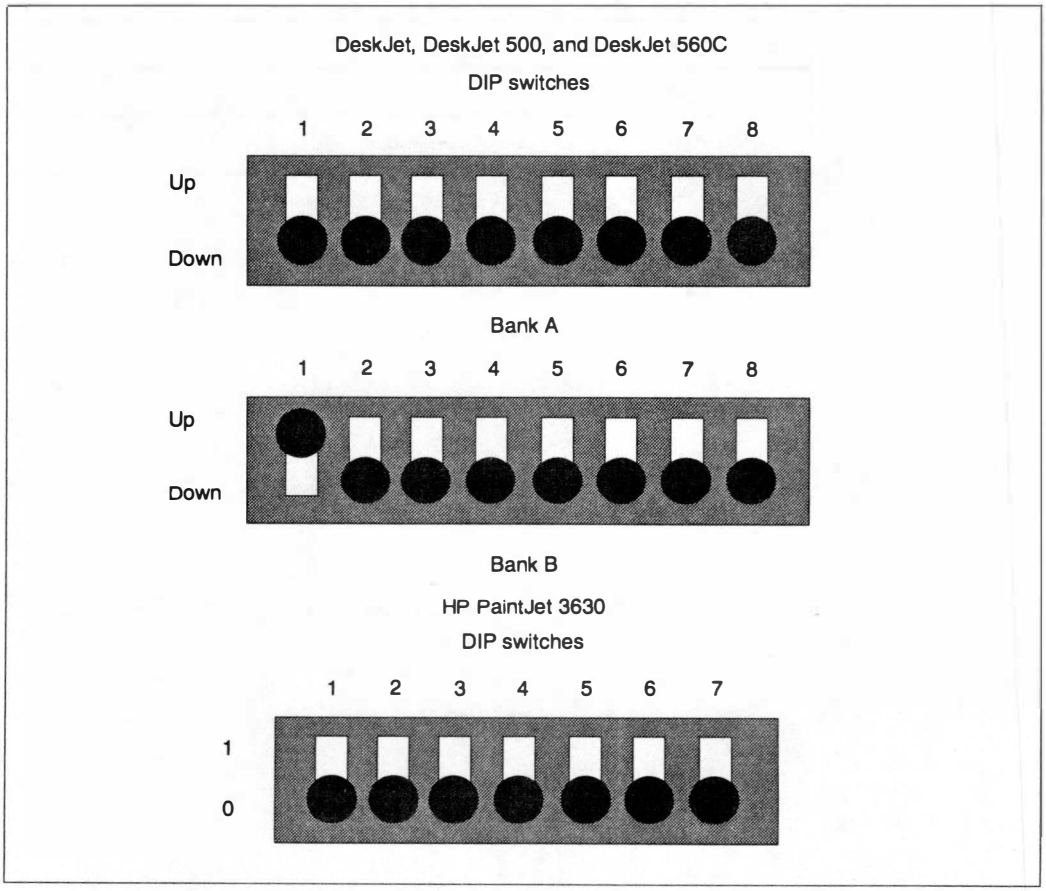
Table 7-6 (continued) **LaserJet series 4 Plus printer option settings**
Press {Menu} key four times to view Memory configuration menu
IO BUFFER = AUTO
Press {Menu} key five times to view Parallel menu
HIGH SPEED = YES
ADV FNCTNS = OFF
Press {Menu} key six times to view Serial menu
PACING = XON/XOFF
BAUD RATE = 9600
ROBUST XON = ON
DTR POLARITY = HI
—end—

HP PaintJet 3630, DeskJet, DeskJet 500, DeskJet 560C, and DeskJet 660C

The PaintJet 3630, DeskJet, Deskjet 500, DeskJet 560C, and DeskJet 660C are inkjet printers. The DeskJet 660C printer does not contain DIP switches. Figure 7-6 shows the correct DIP switch settings for the PaintJet 3630, DeskJet, Deskjet 500, and DeskJet 560C printers.

Note: The DeskJet 560C and 660C must be used with a serial-parallel converter. See the "Serial-parallel converter" section for more details.

Figure 7-6
HP PaintJet 3630, DeskJet, DeskJet 500, DeskJet 560C, and DeskJet 660C DIP switch settings



Chapter 8: Meridian 1 circuit card configuration

SDI configurations for Meridian MAX

Meridian MAX Application Module

Because there are several different SDI packs that can be connected to the Meridian MAX's High-Speed Link, detailed configuration instructions for the SDI packs are required.

The HSL is implemented by connecting the NT6D51AA transition module on the Meridian MAX to a supported SDI pack on the MSL1. The following SDI packs are supported: QPC139, QPC841, and the NT8D41. Each type of SDI pack requires a specific HSL cable which then connects to the NT6D51AA via a multiport cable (NT8D96AE). Detailed instructions for configuring the HSL connections are provided below.

The Meridian MAX NT6D51AA transition module does not require configuration. It is configured as a DCE device, that is it behaves like a modem. Consequently, all SDI ports must be configured as DTE devices.

The QPC139 Serial Data Interface (SDI) operates as a DTE device. Set the QPC139's "Output Device" to "DCE mode (modem)". The Port 1 jumper plug is set to location A13. The Port 2 jumper plug is set to location A25.

The QPC841 Serial Data Interface (SDI) operates as a DTE device. Set the QPC841's "DTE/DCE mode selection" to "DCE mode (modem)."

- Port 1 SW8 is set all to OFF.
- Port 1 SW9 is set all to ON.
- Port 2 SW6 is set all to OFF.

- Port 2 SW7 is set all to ON.
- Port 3 SW4 is all OFF.
- Port 3 SW5 is all ON.
- Port 4 SW2 is all OFF.
- Port 4 SW3 is all ON.

The High-Speed Link (HSL) cable or Load Management Link (LML) cable used with the QPC841 SDI and the QPC139 SDI link is part number NT1R03Dx, where x can be B, D, F, L, T, V, depending on the length of the cable. This cable connects the Meridian MAX to the Meridian 1 and can be used as the High-Speed Link or Load Management Link. Refer to the "Hardware installation: Intelligent Peripheral Equipment (IPE) module" chapter, "Cables" section, to see the cabling arrangement for the NT1R03Dx cable.

> ***Note:*** The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

The NT8D41 Serial Data Interface (XSDI) operates as a DTE device. Set the NT8D41's "DTE/DCE mode selection" to "DCE mode (modem)."

- Port 1 SW5 is set all to OFF.
- Port 1 SW6 is set all to ON.
- Port 2 SW7 is set all to OFF.
- Port 2 SW8 is set all to ON.

The High-Speed Link (HSL) cable or Load Management Link (LML) cable used with the NT8D41 SDI is part number NT8D93Ax , where x can be J or W depending on the length of the cable. This cable connects the Meridian MAX to the Meridian 1 and can be used as the High-Speed Link or Load Management Link. Refer to the "Hardware installation: Application Module" chapter, "Cables" section, for the cabling arrangement for the NT8D93Ax cable.

Meridian MAX - IPE module

Option 11

When connecting to Option 11, ensure that the Option 11 system is equipped with either a TDS/DTR two-port serial I/O card (NTAK03BA) and a connecting two-port serial cable (NTAK19AA) or a SDI/DCH four-port serial I/O card (NTAK02AA) and a connecting four-port serial cable (NTAK02BA). They are used to interface both the HSL and LML between the Option 11 and the Meridian MAX - IPE four-port I/O cable. For a direct connection, the distance between the serial cable used by Option 11 and the four-port I/O cable used by the Meridian MAX - IPE system must not exceed 15 meters (50 feet). Otherwise, limited distance modems must be used.

Option 21-81

Because there are several different SDI packs that can be connected to the Meridian MAX - IPE High-Speed Link, detailed configuration instructions for the SDI packs are required.

The HSL is implemented by connecting the NT1R03BA cable (Port 8) on the Meridian MAX - IPE to a supported SDI pack on the Meridian 1. The following SDI packs are supported: QPC139, QPC841, and NT8D41. Each type of SDI pack requires a specific HSL cable which then connects to the NT1R03BA cable (Port 8). Detailed instructions for configuring the HSL connections are provided below.

The Meridian MAX - IPE HSL port does not require configuration because it is preconfigured as a DCE port. Consequently, all SDI ports must be configured as DTE ports in order for the two ports to communicate.

The QPC139 Serial Data Interface (SDI) operates as a DTE device. Set the QPC139's Output Device to Modem. The Port 1 jumper plug is set to location A13. The Port 2 jumper plug is set to location A25. Refer to *SL-1 Circuit Card Installation and Testing* (NTP 553-3001-211) for more information.

The QPC841 Serial Data Interface (SDI) operates as a DTE device. Set the QPC841 DTE/DCE mode selection to DCE mode (modem).

- Port 1 SW8 is set all to OFF.
- Port 1 SW9 is set all to ON.

- Port 2 SW6 is set all to OFF.
- Port 2 SW7 is set all to ON.
- Port 3 SW4 is set all to OFF.
- Port 3 SW5 is set all to ON.
- Port 4 SW2 is set all to OFF.
- Port 4 SW3 is set all to ON.

The High-Speed Link (HSL) cable or Load Management Link (LML) cable used with the QPC841 SDI and the QPC139 SDI link is referred to as part number NT1R03Dx, where x can be B, C, F, P or V depending on the length of the cable. This cable connects the Meridian MAX to the Meridian 1 and can be used as the High-Speed Link or Load Management Link.

Note: The Configuration Control feature uses a Load Management Link that is also referred to as a Configuration Control Link.

The NT8D41 Serial Data Interface (XSDI) operates as a DTE device. Set the NT8D41 DTE/DCE mode selection to DCE mode (modem).

- Port 1 SW5 is set all to OFF.
- Port 1 SW6: dipswitches 1, 3-6 are set to ON; dipswitch 2 is set to OFF.
- Port 2 SW7 is set all to OFF.
- Port 2 SW8: dipswitches 1, 3-6 are set to ON; dipswitch 2 is set to OFF.

The High-Speed Link (HSL) cable or Load Management Link (LML) cable used with the NT8D41 SDI is referred to as part number NT8D93Ax, where x can be J or W, depending on the length of the cable. This cable connects the Meridian MAX - IPE to the Meridian 1 and can be used as the High-Speed Link or Load Management Link.

Configuring the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link

To configure the Multi-purpose Serial Data Link card (MSDL) for use with the High-Speed Link (HSL) or the Load Management Link (LML) on the Meridian 1, follow the steps in Procedure 8-1.

Before configuring your MSDL card on the Meridian 1 for use with the HSL or LML, contact your Meridian 1 administrator to ensure the following criteria is met.

- Switch settings on the MSDL card must be correct for HSL and LML configuration.
- Port 0 on the MSDL card is an asynchronous port. It must be available for the configuration of the HSL or the LML. The HSL and LML must be configured on separate MSDL cards.

Procedure 8-1
To configure the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link

Step	Action
1	If there are no MSDL cards installed on your current system, refer to the *Circuit Card Installation and Testing Guide* (NTP 553-3001-211) for information on installing MSDL circuit cards and continue with this procedure. If MSDL cards are already installed on your current system, go to Step 11.
2	Configure the MSDL card using the Meridian 1 maintenance terminal. Use the document *X11 System Management Applications Guide* (NTP 553-3001-301) and the following guidelines. For prompts not listed, press {ENTER} to select the default value. ***Note:*** Ensure "Caps Lock" on your keyboard is set to "on". Enter **LD 22** to access Overlay program 22 to verify that MSDL (222) and MSDL SDI (227) software is loaded on your system. The system displays the following prompt: REQ

—continued—

Procedure 8-1 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link

Step	Action
3	Enter **PRT** to access the program's print function. The system displays the following prompt: TYPE
4	Enter **PKG** to print the X11 software packages equipped on the Meridian 1. If these packages are not equipped on your system, contact your distributor. The system displays the following prompt: REQ
5	Enter ******** to exit Overlay program 22.
6	Check your system for existing MSDL cards that can be used for HSL and LML. Verify that the switch settings of the MSDL card number (DNUM) do not conflict with other I/O devices.
7	At this point, your Meridian MAX HSL or LML cable, NT7D58Ax, should be disconnected from the MSDL card's NTND27 cable. Once the card is configured for the HSL or LML, the cables can be connected.
8	If you have a new MSDL card, go to Step 11. If you have an existing TTY configured on Port 0 of the MSDL card you want to use for the HSL or LML, use Overlay program 37 to disable that TTY port. Contact your Meridian 1 administrator for assistance. Enter **LD 37** to access Overlay program 37 to disable the TTY port.
9	Enter **DIS TTY xx**. The available TTY is represented by xx.
10	Enter ******** to exit Overlay program 37.
11	Enter **LD 17** to access Overlay program 17 to define the HSL or the LML on Port 0 of the MSDL card. The system displays the following prompt: REQ

—continued—

Procedure 8-1 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link

Step	Action
12	Enter **CHG** to change the configuration on Port 0. The system displays the following prompt: TYPE
13	Enter **CFN** to access the configuration record. The system displays the following prompt: ADAN
14	Enter **NEW TTY xx** to add a new MSDL TTY port or enter **CHG TTY xx** to change an existing MSDL TTY port. The device number is represented by xx. The system displays the following prompt: CTYP
15	Enter **MSDL** The system displays the following: PORT 0 DES ***Note:*** Port 0 is the only port which may be configured as a HSL or LML.
16	Label the port by entering a name up to 16 alpha-numeric characters in length. The system displays the following prompt: BPS
17	Enter **9600** to set the baud rate. The system displays the following prompt: PARY

—continued—

Procedure 8-1 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link

Step	Action
18	Enter **NONE** to set the parity type. The system displays the following prompt: BITL
19	Enter **8** to set the data bit length. The system displays the following prompt: PARM
20	Enter **R232 DTE** to set the interface and transmission mode. The system displays the following prompt: FUNC
21	Enter **{RETURN}** to set the MSDL card function. The system displays the following prompt: USER
22	Enter **HSL** to designate the port and set the output message types for HSL or enter **ACD** to designate the port and set the output message types for LML. If you designate the port for the HSL, go to Step 26. If you designate the port for the LML, the system displays the following prompt: CUST
23	Enter **zz**. The customer number of the Meridian MAX node is represented by zz. The system displays the following prompt: SSUP

—continued—

Procedure 8-1 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link

Step	Action
24	Enter **YES**. The system displays the following prompt: APRT
25	Enter **NO**.
26	The system displays the following prompt: ADAN DATA SAVED ADAN
27	Enter ******** to exit Overlay program 17.
28	Enter **LD 48** to access Overlay program 48 to disable all other applications running on the MSDL card.
29	Enter **DIS MSDL xx ALL** to disable all ports on the MSDL card. The device number is represented by xx. A red light appears on the MSDL card. At this point, the card can be removed to check the DIP switch settings. Ensure the settings are set correctly for RS-232 and the MSDL card is reinstalled correctly before continuing with this procedure. Refer to the *Circuit Card Installation and Testing Guide* (NTP 553-3001-211) for information on MSDL DIP switch settings and MSDL card installation.
30	Enter **ENL MSDL xx FDL** to download the resident memory on the Meridian 1 to the MSDL firmware. The device number is represented by xx.
31	Enter **ENL MSDL xx ALL** to reenable all ports on the MSDL card. The device number is represented by xx.
32	Enter ******** to exit Overlay program 48.
33	Connect your Meridian MAX HSL or LML cable, NT7D58Ax to the NTND27 MSDL faceplate cable.

—continued—

Procedure 8-1 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with the High-Speed Link or the Load Management Link

Step	Action
34	Check the Meridian MAX Error Log for indication of a HSL or LML connection. Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, for more information on the Meridian MAX Error Log.

—end—

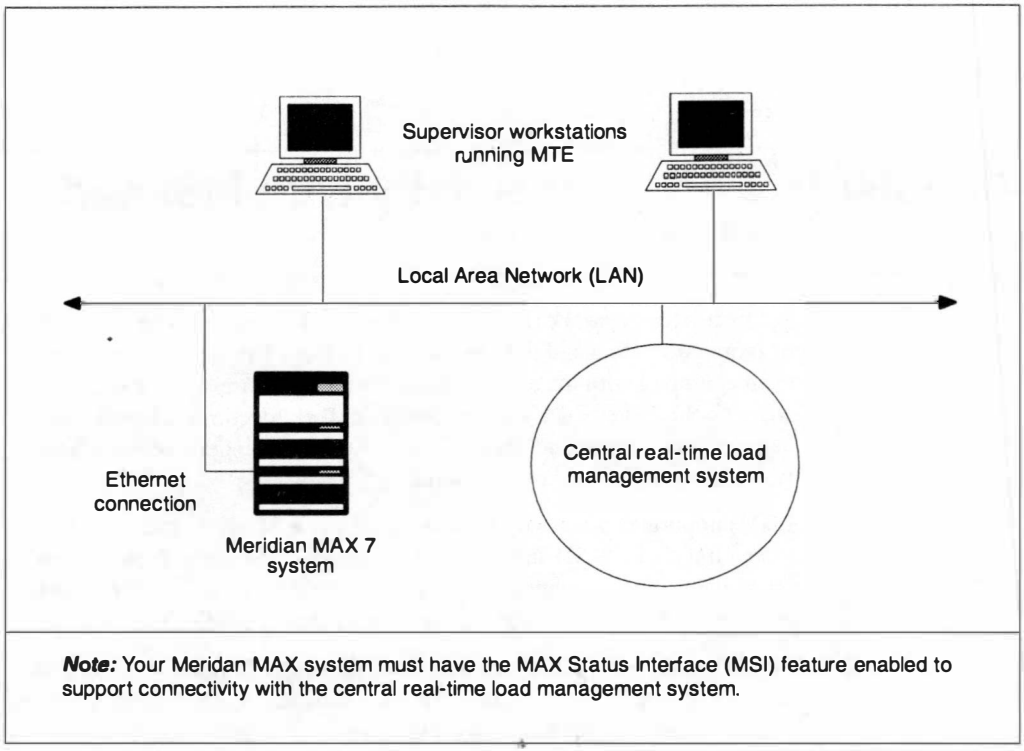
Chapter 9: LAN connectivity with MSI and MTE

A Local Area Network (LAN) is used to provide data transfer between two or more computers and their peripheral devices. This group of computers is each equipped with the appropriate network hardware and software. They share applications, data, and peripherals. All connections are made via cable or wireless media. The LAN does not use telephone services and typically spans a building or campus.

LAN supports connectivity between a Meridian MAX 7 running MAX Status Interface (MSI) and a central real-time load management system. A LAN also supports connectivity between Meridian MAX 7 and supervisor PC workstations using Meridian Terminal Emulator (MTE).

Figure 9-1 shows the LAN connectivity between Meridian MAX and PC supervisor workstations using MTE, and Meridian MAX running MSI and a central real-time load management system.

Figure 9-1
LAN connectivity with MTE and MSI enabled



Note: Your Meridan MAX system must have the MAX Status Interface (MSI) feature enabled to support connectivity with the central real-time load management system.

MAX Status Interface

The MAX Status Interface (MSI) allows Meridian MAX to send queue-based statistical data collected from the Meridian 1 across the LAN to a central real-time load management system. The central system, which is operated from a single workstation, also receives similar data from other vendors' ACD systems. The combined data is used by the central system to manage network traffic across the different switches.

> *Note:* The Multiple Queue Assignment and NAC connectivity features are not available if MSI is installed on your system.

The Meridian MAX user is able to monitor the MSI link through the system's maintenance and administration programs. The LAN Link Diagnostics screen provides the status of the MSI link, the number of link

errors, and the IP address of the connection. In addition, from this screen, the information travelling along the link can be saved to a file and displayed on the screen. Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Diagnostics" section, "LAN Link Diagnostic Tools" subsection, for more information.

Meridian Terminal Emulator 6 and 7

Meridian Terminal Emulator (MTE) can be used in a Windows or DOS environment. For use in a Windows environment, MTE 6 or MTE 7 is required. For details, refer to the *MTE 6 User Guide* (P0815602) or the *MTE 7 User Guide* (P0821303).

Meridian Terminal Emulator 5.32 or lower

Meridian MAX 7 provides Ethernet connectivity for supervisor PC workstations via the industry standard TCP/IP protocol provided by the Meridian Terminal Emulator (MTE). Only FTP Software's PC/TCP software is supported.

This connectivity increases the number of active supervisor sessions and accommodates call centers that have a LAN infrastructure in their current environment. A token-ring environment is also possible via customer supplied protocol converters.

LAN connectivity is only supported for PC-based supervisor workstations running the Meridian Terminal Emulator (MTE). LAN supervisor workstations are only available on Meridian MAX 5, 6, and 7 SNN and IPE systems. Depending on your hardware configuration, an SNN system can have a maximum of 59 LAN-based supervisor workstations, and an IPE system can have up to 19.

To run on a LAN, the MTE 5.32 or lower requires one of the FTP Software's PC/TCP network products. The following list identifies the minimum versions of FTP Software's PC/TCP software products which can be used with MTE 5.32 or lower:

- FT P Software's PC/TCP network kernel for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)
- FTP Software's PC/TCP Network Software for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)

- FTP Software's PC/TCP Network Software for DOS and Windows, versions 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)
- FTP Software's PC/TCP Network Software for OS/2 version 1.3 or higher

Note: Other LAN packages with TCP/IP capability are not supported.

ATTENTION

Use FTP Software's PC/TCP network kernel or PC/TCP network software only. If your system has LAN connectivity, you must use either FTP Software's PC/TCP network kernel or PC/TCP network software for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1).

PC/TCP kernel is the minimum requirement for Meridian MAX LAN connectivity. The PC/TCP and the network interface cards must be purchased separately. If you wish to take advantage of other PC/TCP applications, the complete PC/TCP networking software is required. Other LAN O/S versions of TCP/IP also do not work with MTE.

FTP Software's PC/TCP network kernel or network software provide the LAN interface for the supervisor's PC and supports multiple types of LAN cards. Meridian MAX 7 provides Ethernet connectivity for supervisor workstations via the industry standard TCP/IP protocol. LAN connectivity is also supported in a Token Ring environment through use of a protocol converter. The Meridian MAX system has no specific hardware dependency on the type of protocol converter used. The FTP Software's PC/TCP User's Guide references used in this chapter are based on Version 2.2.

Customer-supplied hardware

On the Meridian MAX end of the LAN connection, an Ethernet IEEE 802.3 LAN connection is provided by using a 15-pin AUI connector from the I/O panel. A customer-supplied transceiver is then used to connect the AUI connector to the LAN.

Meridian MAX supports any of the following Ethernet backbones: 10Base-T, 10Base2, 10Base5, and 10Base-FL (fiber optics).

Table 9-1 lists the CISPR 22B compliant Ethernet transceivers that were tested and verified by Nortel. However, any transceiver that complies with the CISPR 22B standard, or any other country-specific requirements, is acceptable.

Table 9-1
Ethernet transceivers

Transceiver model	LAN Environment	Mean Time Between Failures (MTBF) in hours
BoseLAN BL-50 Revision 3	10Base-T	250 000
BoseLAN BL-55 Revision 1	10Base5	250 000
BoseLAN BL-70 Revision 2	10Base-FL	250 000
BoseLAN BL-80 Revision 2	10Base2	250 000

Meridian Terminal Emulator 5.32 or lower

To have LAN connectivity, the following hardware resources must be available on each PC:

- IBM or 100% compatible PC AT or higher
- 6 Mbytes of free disk space for FTP Software's PC/TCP kernel or software, and for the Meridian Terminal Emulator (MTE) software, if MTE is to be installed on the hard disk
- 1 Mbyte of total memory (RAM) with minimum 384 Kbytes of free memory (RAM)
- ODI, NDIS, or packet driver compatible Ethernet LAN adapter card
- EGA or VGA card with 256 Kbytes and color monitor

Customer-supplied software for MTE PC workstations

The following software is required for each supervisor PC with LAN connectivity:

- FTP Software PC/TCP network kernel for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1), or FTP Software PC/TCP network software for DOS, versions 2.05, 2.10, 2.20, 2.30, or 3.0 (OnNet 1.1)
- Microsoft MS-DOS, Version 5 or higher

Meridian Terminal Emulator 5.32 or lower PC setup

Perform Procedure 9-1 when configuring each PC connected to the Meridian MAX in a LAN environment.

Procedure 9-1
To set up a PC for using Meridian Terminal Emulator (MTE) 5.32 or lower

1. Install the PC network interface card in the PC according to the network interface card manual.
2. Install any software drivers specific for the PC network interface card according to the network interface card manual.
3. Connect the PC to the network. Contact your LAN administrator for more details.
4. Run diagnostics on the PC network interface card as outlined in the network interface card user's manual. If the diagnostics fail, try different card settings (IRQ, DMA, I/O base address), or replace the card. Refer to the PC network interface card User's Guide for more details.
5. Determine the PC's unique IP address on the LAN. Contact the LAN administrator for the unique address for your PC.
6. Install FTP Software's PC/TCP software onto the PC according to FTP Software's PC/TCP Installation Guide.
7. Use the ping program included with FTP Software's PC/TCP software, to determine whether you can make a connection to the Meridian MAX system. For example, if the MAX IP address were 47.235.11.15, you would enter: ping 47.235.11.15.
8. If the ping fails, refer to the *Meridian MAX 7 Maintenance and Diagnostics* (NTP 553-4001-811), "Fault isolation checklist" chapter.
9. Install the MTE software. Refer to the "Meridian Terminal Emulator on a PC" section, "Installation" subsection.
10. Start the MTE software, press both left and right **{SHIFT}** keys simultaneously to enter the setup screen.

a. Choose LAN for the value in the *CONNECTION TYPE* field.

b. Enter the Meridian MAX Hostname or IP address in the *HOST NAME OR IP ADDRESS* field.

c. Save these settings. For more information, refer to the "Workstations" chapter, "Installing MTE 5.32 or lower" section, "Starting and exiting MTE" subsection.

11 Exit the setup screen. MTE connects to the Meridian MAX system, and the login screen is displayed.

Meridian Terminal Emulator 5.32 or lower packet buffers

Before you can use MTE on your LAN, you must ensure that the hardware (the PC's network interface card) and FTP Software's PC/TCP network software are installed and operating correctly.

If you are using MTE on the LAN and experience poor response times, or if you are losing your connection to the MAX system, you may need to increase the number of packet buffers that are set aside for the PC/TCP kernel.

The PC/TCP kernel is a DOS Terminate and Stay Resident (TSR) program which manages your PC's access to the LAN. Packet buffers are storage areas that the PC/TCP kernel uses for sending or receiving information across the LAN.

FTP Software's PC/TCP User Guide outlines the steps required to increase the number of packet buffers. The recommended number of packet buffers for Meridian MAX is 10. This information is outlined in the "Tuning PC/TCP" section of FTP Software's *PC/TCP User's Guide*.

The following steps provide an overview of how to set the number of packet buffers. These steps assume that the location of the FTP Software's PC/TCP software is included in your DOS path.

To increase the number of packet buffers perform Procedure 9-2.

Procedure 9-2
To increase the number of packet buffers

1 Unload the PC/TCP kernel.
Enter **inet unload {RETURN}**.

2 Restart the kernel.
Enter **<kernel> -p 10 {RETURN}**.

For example, if your PC/TCP kernel is "ethdrv," enter the following at the DOS prompt: **ethdrv -p 10**.

3 Change to the DOS directory where you installed the MTE software.

For example
CD C:\MERIDIAN

4 Start MTE.
Enter **MTE {RETURN}**.

5 If you still experience problems, repeat steps 1 to 4, and increase the number of packets by one each time until the performance improves.

Common LAN functionality

Meridian MAX connectivity

A 15-pin AUI connector is provided to connect the Meridian MAX to the LAN. A customer provided transceiver is required for connecting to 10Base-5, 10Base-T, or 10Base-2 cabling.

Connecting the Meridian MAX to the LAN is done via an Ethernet connection between your local LAN Ethernet port and

- on the SNN hardware platform, the I/O panel's Ethernet connection on the NT7D47EA cable
- on the IPE hardware platform, the LAN connection on the NT1R03AA four-port I/O cable

Token Ring environment

For Token Ring environments, the following items are required:

- Token Ring Adapter LAN Card with an ASI, NDIS, ODI, or packet driver
- Protocol converter

IP Addresses

An IP address is a unique identifier for a device connected on the LAN. The Meridian MAX system requires a unique IP address, as does each PC running MTE. In order to use MTE on a LAN, you need to obtain the IP address for your PC and the Meridian MAX system. FTP Software's *PC/TCP User's Guide*, "Using IP Addresses" section, explains the numbering scheme for IP addresses. You must adhere to the IP addressing scheme.

Once Meridian MAX has a configured IP address, the address can be entered in the *Host Name or IP Address* field on the MTE setup screen.

Subnet mask

The subnet mask is a 32-bit number used by the network software on a local machine to determine which bits belong to the network or to the host parts of the internet address. By modifying this number, your network efficiency can be improved.

The subnet mask is of the form *a.b.c.d* where *a*, *b*, *c*, and *d* are in the range of 0 to 255.

Default router/gateway address

In a networked environment, routers (or gateways) provide connectivity between two networks. The default router/gateway address is used to specify the router or gateway used with Meridian MAX.

The default router/gateway address is of the format *a.b.c.d*, where *a* is in the range of 0 to 223, and *b*, *c*, and *d* are in the range of 0 to 254.

Hostnames

A Hostname is the name assigned to the Meridian MAX system by the LAN administrator, that provides an alternate to the IP Address. For more information, refer to the FTP Software *PC/TCP User's Guide*, "Using Hostnames" section.

If you are using hostnames on PCs running FTP Software's PC/TCP software, you need to add the Meridian MAX Hostname to the PC/TCP configuration. Refer to the FTP Software *PC/TCP User's Guide*, "Creating A Local Hostname Table" section.

Once Meridian MAX has a configured Hostname, the Hostname can be entered in the *Host Name or IP Address* field on the MTE setup screen.

Network interface cards

FTP Software's PC/TCP software supports various Ethernet and Token Ring LAN adapter cards. Any network interface cards that are compliant with Industry Standard Open Driver Specifications (Packet Driver, NDIS, ODI, and ASI) should work. Ensure that your network interface cards are supported or qualified by your network operating system.

Contact FTP Software to verify the type of adapter cards and drivers that are required for your particular LAN environment.

Consult your LAN administrator to determine what equipment is available in your network.

Meridian MAX setup

Perform the following steps when configuring Meridian MAX in a LAN environment.

1. Ensure that your system has the LAN connectivity option enabled. For more information, refer to the *Meridian MAX 7 Maintenance and Diagnostics* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, "System parameters" subsection.
2. Set the Meridian MAX IP address and Hostname. For more information, refer to the *Meridian MAX 7 Maintenance and Diagnostics* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, "System parameters" subsection.
3. Physically connect the Meridian MAX to the LAN. Refer to the "Workstations" chapter for more information.

Chapter 10: Meridian MAX system configuration

The "Meridian MAX system configuration" chapter describes the Port Assignment and the Capacity Configuration feature. An overview of both configurations appears prior to Procedure 10-1. The procedure presents detailed information and instructions on how to complete the Port Assignment and Capacity Configuration screens.

During a software installation procedure, the Meridian MAX ports must be assigned and the system capacities must be set. Procedure 10-1 provides instructions on how to perform these tasks. This procedure is only performed after you are referred to it by a software installation or operating modes procedure. For software installations, the entire procedure must be completed. For operating modes, only the port assignment section is required. When you complete Procedure 10-1, return to your previous procedure.

Port assignment

Port assignment must be completed during a software installation or operating modes procedure.

The two Meridian MAX 7 hardware platforms have different port maximums. The IPE system can have a maximum of eight ports, while the SNN can have 8, 16, 24, 32, or 40 ports.

Refer to Procedure 10-1 for more detailed information on how to configure your Meridian MAX 7 system ports.

Fixed port assignments

Both platforms have fixed port assignments that cannot be changed.

SNN

The High-Speed Link is the only fixed port for the SNN system. This fixed port assignment is Card 2, Connection 1A.

IPE

On a Meridian MAX - IPE system, the High-Speed Link is fixed on Port 8, the console port is fixed on Port 1, and the diagnostic modem is fixed on Port 2.

Required port assignments

Not all ports need to be assigned; however, certain devices must be configured to the Meridian MAX system.

Supervisor workstations and printers

A minimum of one supervisor workstation and one printer must be assigned for any Meridian MAX 7 system.

Load Management Link

The Load Management Link must be assigned if your system has Configuration Control. Only one Load Management Link is allowed per system.

Network Link

The Network Link must be assigned if the system has NAC Connectivity enabled. Only one Network Link is allowed per system.

The Network Link cannot be enabled if your system is running MAX Status Interface (MSI).

Retained port assignments

If you are performing an upgrade that has no hardware platform change, and the new number of ports is equal to or greater than the number of ports on the previous system, all port assignments are retained.

All ports must be reassigned if you are performing an installation upgrade that involves a change in hardware platform, and/or the number of available ports on the new system is less than the number of available ports on the old system.

If you want to change your port assignments after the installation is complete, you must alter the port assignments through maintenance. Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" or "Maintenance and administration programs: system shutdown" chapters, "Configure Meridian MAX System" section, "MAX Hardware Configuration" subsection, for more information.

Capacity Configuration

The Capacity Configuration feature allows you to customize your Meridian MAX system parameters, making the most efficient use of your system database storage and system memory. You can control the amount of historical data storage, as well as the amount of ACD data that is being presented on the Real-time Statistics Displays. This information is displayed on the Basic Capacity Configuration screen and the Advanced Capacity Configuration screen.

You can enter specific values for each capacity parameter, including your basic system size, operation hours, storage duration, and the number of queues, routes, and trunks.

ATTENTION

Consult with your vendor's telecommunication engineer before attempting to configure the system database. If the system is configured incorrectly, a subsequent system reconfiguration could take between 15 minutes and 14 hours depending on database size.

Ensure you receive the completed and approved Capacity Configuration worksheets from the telecommunication engineer, who has determined your configuration requirements using the MAX Capacity Configuration Calculator. This preparation must be done before starting your software installation. Failure to take this preparation before configuring the system database could result in an improper configuration and an extended installation time. Because of the large number of interdependent field values that affect database storage, the telecommunication engineer must be consulted.

Functionality

Capacity Configuration allows you to

- configure the Meridian MAX system to the desired and expected ACD data acquisition workload, and the ACD historical data database storage capacity
- define the basic desired or predicted Capacity Configuration parameters
- utilize your available hardware resources more efficiently
- monitor the ACD data acquisition and storage capacity usage patterns on-line to more accurately define the Meridian MAX Capacity Configuration parameters

Accessibility

The Meridian MAX Capacity Configuration can be used to

- install the Meridian MAX 7 software and to configure the system database and memory limits
- review or adjust the current capacity parameters after the Meridian MAX is installed and shut down (This procedure is done through the maintenance and administration programs. For more information, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter.)
- print the current capacity parameters while the Meridian MAX is in operation (This procedure is done through the maintenance and administration programs. For more information, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter.)

Historical database

As an increasing amount of data is saved in the system database, the historical database table may become full. Meridian MAX has two conditions under which the database table is considered full.

The first condition occurs when the Meridian MAX system's expected disk space limit is reached. In this case, Meridian MAX deletes the oldest data stored in its memory. The deleted data could be a day of daily data or interval data, a week of weekly data, or a month of monthly data. The current data is not lost.

The second condition occurs when the following criteria on the Basic Capacity Configuration screen are reached simultaneously:

- The expected limits, excluding the operation hours and storage duration, are exceeded by 67 percent.
- The oldest data is within the minimal data duration. The minimal data duration includes two days of interval and agent event log data, and one day, week, or month of daily, weekly, or monthly data, respectively.

In this case, Meridian MAX cannot store even the latest data into the database.

Under these conditions, the Meridian MAX system administrator or system operator should reconfigure the Meridian MAX Capacity Parameters more accurately as soon as possible.

Configuring the system database

The Capacity Configuration feature can be used to

- configure a new system database
- configure a system database using a previously existing system database
- reconfigure the system database through the Meridian MAX 7 maintenance and administration programs

Your system database should only need to be configured once, either during the initial software installation or installation upgrade. A well-planned database configuration (completed before the system software installation), and a provision for system growth are essential to maximize your system's efficiency. Not taking these measures could result in the need for a system database reconfiguration which, depending on its size, can take between 5 and 28 hours.

Configuring a new system database

If you are configuring a new system database, you need to receive the completed and approved Capacity Configuration worksheets from your telecommunications engineer. These worksheets instruct you as to what values should be entered in which fields on your Basic Capacity Configuration and Advanced Capacity Configuration screens.

Configuring a system database using a previously existing system database

The system directly translates the values and capacity parameters of your previous Meridian MAX system and transfers them to your new system database. These values are the initial values you see when you access the Basic Capacity Configuration and Advanced Capacity Configuration screens.

Modifying system capacities

Once you enter the Capacity Configuration feature, you should further modify your system capacities. The system displays the Basic Capacity Configuration screen. Pressing the {F6} function key allows you to access the Advanced Capacity Configuration screen. Both screens display the transferred values from the previous Meridian MAX system database in their respective fields.

At this point, you are still able to affect changes to your Meridian MAX 7 capacity configuration. The value for each field can be altered by moving the cursor to the field you want to change and entering the new value. Use your completed and approved Basic Capacity Configuration worksheet, seen in Table 10-1, and Advanced Capacity Configuration worksheet, seen in Table 10-2, to modify the values in any affected field.

> *Note:* While changing the field values, closely monitor the amount of available disk space. This value changes with every modification to the screens. Ensure that the amount of "Expected" disk space does not exceed the amount of "Available" disk space.

System reconfiguration

If the instance arises that you must reconfigure your Meridian MAX 7 system, this process can be done through the maintenance and administration programs.

Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" chapter, for more information.

Capacity Configuration worksheets

Basic Capacity Configuration worksheet

Use this worksheet whenever you are creating or reconfiguring your Meridian MAX 7 system database. Obtain the completed worksheets from your telecommunications engineer.

Use this worksheet to determine the field values for your Meridian MAX 7 system database. First, enter the system capacities of your current Meridian MAX system database into the "Actual Value" column. Second, determine field values that allow for future system growth. Enter this number in the "Expansion Value" column, and use it as the capacity configuration parameter for your Meridian MAX system.

The amount of period data on a printed report depends on the amount of daily data. The amount of shift data on a printed report depends on the amount of interval data.

Note: Complete this worksheet only with the help of your telecommunications engineer.

Table 10-1
Basic Capacity Configuration worksheet

Field name	Subfield name	Actual value	Expansion value
M1 Positions	N/A		
M1 Supervisors	N/A		
Agent ID	N/A		
DNIS	N/A		
Activity Code	N/A		
Avg. Calls per Hour	N/A		
Queues	ACD-DNs		
	CDNs		
	IVR/MAIL		

—continued—

Table 10-1 (continued)
Basic Capacity Configuration worksheet

Field name	Subfield name	Actual value	Expansion value
ACD Trunk Level Reporting	N/A		
Routes	RAN		
	ACD Auto Terminate (AT)		
	ACD Non AT		
ACD Trunks	Auto Terminate (AT)		
	Non AT Trunks		
Operation Hours	Agent Shifts Per Day		
	Hours Per Day		
	Days Per Week		
Storage Duration	Interval Data (days)		
	Daily Data (days)		
	Weekly Data (weeks)		
	Monthly Data (months)		
	Event Log Data (days)		

—end—

Note: Before any changes can be saved in the Basic Capacity Configuration screen, the user is required to view the Advanced Capacity Configuration screen by pressing {F6}. Once this screen is viewed and any additional changes are made, return to the Basic Capacity Configuration screen to save all of the changes.

Advanced Capacity Configuration worksheet

Use this worksheet whenever you are creating or reconfiguring your Meridian MAX 7 system database. Obtain the completed worksheets from your telecommunications engineer.

Use this worksheet to determine the field values for your Meridian MAX 7 system database. First, enter the system capacities of your current Meridian MAX system database into the "Actual Value" column. Second, determine field values that allow for future system growth. Enter this number in the "Expansion Value" column, and use it as the capacity configuration parameter for your Meridian MAX system.

> ***Note:*** Complete this worksheet only with the help of your telecommunications engineer.

Table 10-2
Advanced Capacity Configuration worksheet

Field name	Subfield Name	Actual value	Expansion value
Queue Operations (per int.)	Dest. Qs per CDN		
	Dest. Qs per ACD-DN		
	Rem. Src. Qs per ACD-DN		
	Primary Answering Qs		
Trunk Reassignment (per int.)	AT Trunk to Queue		
	Qs Receiving Transfers		
Position Reassignment (per int.)	Pos. to Supervisor		
	Pos. to Queue		
Activity Code Usage (per int.)	Activity Codes per Q		
Qs Logged in per Agent	N/A		
Agent Events (per day)	Logins per Agent		
	Walkaways per Agent		

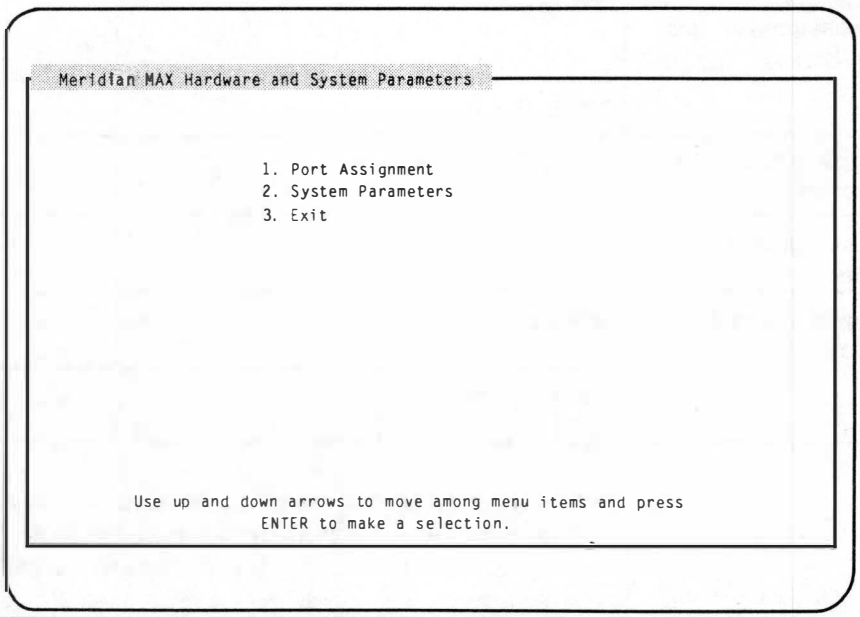
Note: Once any changes have been made in the Advanced Capacity Configuration screen, the user is required to return to the Basic Capacity Configuration screen where the changes can then be saved.

System configuration

Perform Procedure 10-1 when you are referred to it by a software installation or operating modes procedure. For operating modes, only the port assignment section is required. Once you have completed Procedure 10-1, return to the software installation operating modes procedure you were performing.

Procedure 10-1
Meridian MAX 7 port assignment and capacity configuration

Step	Installer action and system's response
1	Ensure that you have completed your software installation procedure up until the point where the Meridian MAX Hardware and System Parameters screen appears and you are referred to this chapter.
2	Ensure that you have the Basic Capacity and Advanced Capacity Configuration worksheets, completed and approved by the telecommunication engineer, before proceeding with the next step.
3	The Meridian MAX Parameters and Setup screen appears.



—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
4	You must enter your system's port assignments and verify the system parameters before exiting this screen. To enter your port assignments, enter **1**, followed by **{RETURN}** or highlight the field using the cursor keys, followed by **{RETURN}**. If you are upgrading your system within the same hardware platform and have an equal or greater number of ports available than you had assigned in your old system, your previous system's port assignments are retained. If you enable a new option that requires a specific device to be assigned, and all the retained ports assignments are filled, the last supervisor display assigned to your old system is deleted to free a port so that the new required device can be assigned. (The term "last" refers to the highest port number assigned to a supervisor display.) If your system is an SNN, go to Step 5. If your system is an IPE, go to Step 6.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

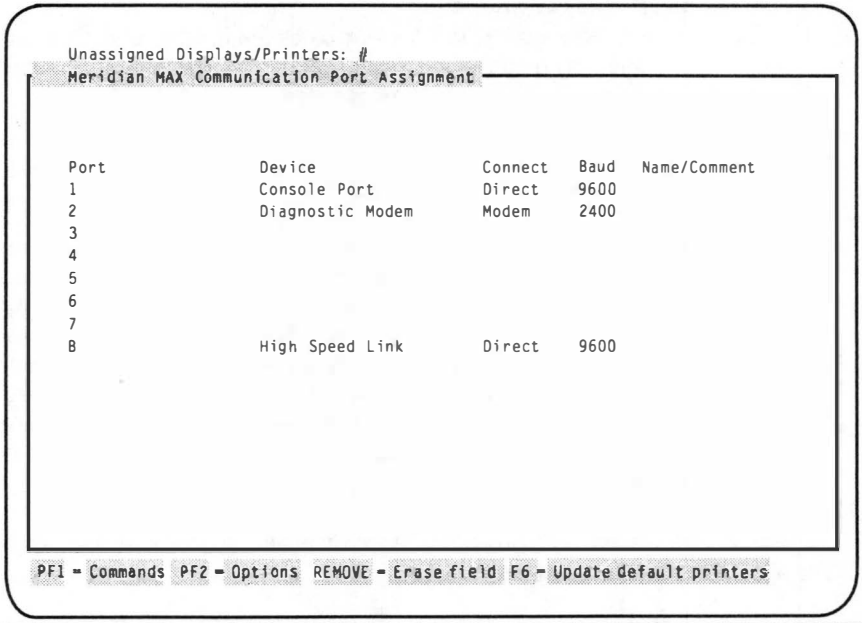
Step	Installer's action and system's response
5	The Meridian MAX Communication Port Assignment screen appears. This screen is only an example of an SNN system with no ports assigned. If you are performing an upgrade and your upgrade meets the requirements listed in Step 4, your previous system's port assignments are retained. An SNN system can have 8, 16, 24, 32, or 40 ports.

```
Unassigned Displays/Printers: 0
Meridian MAX Communication Port Assignment

Port                Device                Connect   Baud   Name/Comment
Card 2, Conn1A      High Speed Link       Direct    9600
Card 2, Conn1B
Card 2, Conn1C
Card 2, Conn2A
Card 2, Conn2B
Card 2, Conn2C
Card 2, Conn3A
Card 2, Conn3B
Card 3, Conn1A
Card 3, Conn1B
Card 3, Conn1C
Card 3, Conn2A
Card 3, Conn2B
Card 3, Conn2C
Card 3, Conn3A
Card 3, Conn3B

PF1 - Commands  PF2 - Options  REMOVE - Erase field  F6 - Update default printers
```

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
6	The Meridian MAX Communication Port Assignment screen appears. This screen is only an example of an IPE system with no ports assigned. If you are performing an upgrade and your upgrade meets the requirements listed in Step 4, your previous system's port assignments are retained. A maximum of eight ports can be assigned on an IPE system.



—continued—

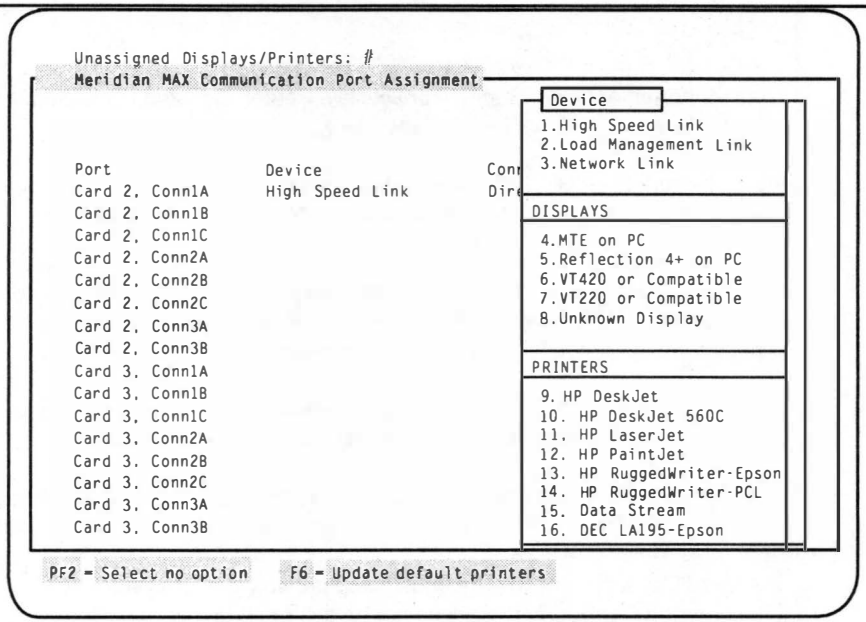
Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
7	**Fields** The Meridian MAX Communication Port Assignment screen has six fields: *Unassigned Displays/Printers*, *Port*, *Device*, *Connect*, *Baud*, and *Name/Comment*. **Unassigned Displays/Printers** The *Unassigned Displays/Printers* field indicates the number of available Printers and Displays that may be assigned to available ports. This number is represented by the number sign (#) in the screen examples. **Port** The *Port* field lists the ports. For an SNN system, the ports are listed according to their card number, and connection number and letter. The card number refers to the card slot number in which the card is located. The card number begins at Card 2, Connection 1A, because the CPU resides in the first card slot. The connection number refers to the port connection on the generic Input/Output panel. The connection letter refers to the specific port to which the devices are attached. An SNN system can have 8, 16, 24, 32, or 40 ports. If your system has more than 16 ports, all of the ports cannot be viewed on a single screen. Use the up and down arrow keys to scroll the screen to view the rest of the ports. For an IPE system, the ports are listed numerically. In an IPE system, a maximum of eight ports can be assigned. Not every port has to be assigned, but you must assign at least one printer and one supervisor workstation. **Device** To assign a device, move the cursor to an empty *Device* field, and press **{PF2}** to view a pop-up menu of the devices available for your system. The following screen is an example. Your system's menu may differ.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response



To delete an existing assignment, move the cursor to the line on which the device is located.

Press **{REMOVE}** and the device is removed.

An arrow appears on the right-hand side of the pop-up menu if all of the devices could not fit onto the screen. Use the up and down arrow keys to move through the menu.

Select the desired device from the list presented. To enter a selection, either move the cursor to the selection and press **{RETURN}**, or enter the corresponding selection number and press **{RETURN}**.

If a device name is dimmed, it cannot be selected.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Links If your system is an IPE, the *Device* field can have up to seven different entries: Load Management Link, Supervisor Display, Printer, Console Port, Diagnostics Modem, Network Link, and High-Speed Link. If your system is an SNN, the *Device* field can have up to five different entries: Load Management Link, Supervisor Display, Printer, Network Link and High-Speed Link. On an IPE system, the Console Port and Diagnostics Modem devices are preset to Port 1 and Port 2 respectively. These assignments cannot be changed. Port assignments for these two devices are not required for SNN systems. Only one High-Speed Link is allowed per system. This assignment cannot be changed. The other devices must be assigned to available ports. The High-Speed Link assignment is permanently fixed on Card 2, Connection 1A of an SNN system. On IPE systems, the High-Speed Link is fixed on Port 8. The Load Management Link must be assigned only if your system has Configuration Control. This device may be assigned to any port except the High-Speed Link port on an SNN system, or on ports 1, 2, and 8 on an IPE system. Only one Load Management Link is allowed per system. The Network Link must be assigned if the system has NAC Connectivity enabled. This device may be assigned to any port except Card 2, Connection 1A on an SNN system, or ports 1, 2, and 8 on an IPE system. Only one Network Link is allowed per system.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Printers and Displays You must assign at least one Printer and one Supervisor Display. ***Note:*** If you are using a VT520 display, select VT420 when you press **{PF2}** while in the *Device* field. Each time a printer is selected, a message appears at the bottom of the screen asking the installer to enter a printer name for the assigned port in the *Name/Comment* field. ***Note:*** If you are using a HP DeskJet 660C printer, select HP DeskJet 560C when you press **{PF2}** while in the *Device* field. Enter a unique name in the *Name/Comment* field that identifies the printer. For example, if a tabular printer is assigned, the name TabPrint could be used. Every printer must have a unique name. ***Note:*** The default printer must be assigned before you are allowed to exit this screen. Printer models are listed when you press **{PF2}** while in the *Device* field. Select the model appropriate to the printer connected to the assigned port. When all of the peripherals are assigned to ports, press **{F6}** to view or change the default printers. The system displays the Customer Default Printer Information pop-up which contains the Customer Default Tabular Printer name and the Customer Default Graphic Printer name. To modify the Customer Default Tabular Printer field, press **{PF2}** and select the name of the printer you want to use as the default tabular printer. This printer is now the destination for all tabular reports whenever the default output device is selected. To modify the Customer Default Graphic Printer field, press **{PF2}** and select the name of the printer you want to use as the default graphic printer. This printer is now the destination for all graphic reports whenever the default output device is selected.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Connect A connection type for each device must be entered in the *Connect* field. This entry must be selected from one of the following choices that appear in a pop-up. Depending upon the device assigned, this field may be filled in automatically by the system. The choices for this field are — Direct — Modem — To PC **Baud** Each time you select an Unknown Display or a Network Link, you must also select a BAUD Rate. For other devices, the Baud rate is assigned automatically by the system. You must choose from one of the following choices: — 2400 — 9600 **Name/Comment** The *Name/Comment* field displays the name given to an assigned printer, or comments made on other devices configured on the system. Press **{PF3}** to edit the *Name/Comment* field for a specific device.
8	When you have finished entering information on the Meridian MAX Communication Port Assignment screen, press **{PF1}** and select the "Save changes and exit" command. The communication port assignment information is saved.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
9	The Meridian MAX Hardware and System Parameters screen is returned. Enter **2**, followed by **{RETURN}** to view the System Parameters screen.

```
Meridian MAX System Parameters

Customer Name                                : Nortel
System Administrator Password                : sysadmin
Meridian 1 Network Node Address *            : 888
NAC to MAX Login Password **                 : ntacdmax

MSI Link ***                                 : Enabled

MAX Hostname ****                            : MAX02
MAX IP Address ****                          : 47.235.5.92
MAX Subnet Mask ****                         : Default
MAX Default Router/Gateway Address ****      : Default
```

Note:

*	This field only appears if the NACD option is enabled.
**	This field only appears if Meridian MAX is connected to a NAC system.
***	This field only appears if Meridian MAX has the MSI option enabled.
****	This field only appears if Meridian MAX has at least one LAN session defined or the MSI option enabled.

```
PF1 = Commands  PF2 = Options  PF3 = Edit field  Remove = Erase field
```

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
10	All of the fields shown only appear if your system has both NACD and LAN connectivity options enabled. If your system does not have NACD or LAN connectivity, only the *Customer Name* and *System Administrator Password* fields appear. For the fields that appear for your system, enter the Customer Name, System Administrator Password, Meridian 1 Network Node Address, NAC to MAX Login Password, MAX Hostname, MAX IP Address, MAX Subnet Mask, and MAX Default Router/Gateway Address. Enable the MSI Link. All of this information should be available from the system administrator. The *Customer Name* field shows the name of your organization. The *System Administrator Password* is the password used by the system administrator to log into the system. The *Meridian 1 Network Node Address* and *NAC to MAX Login Password* fields only appear if your system has NAC. The *Meridian 1 Network Node Address* is the Home Location Code for the Meridian 1. It is used in reports showing network call traffic. If it is necessary to query the Meridian 1 for the Meridian 1 Network Node Address, load Overlay 21 on the Meridian 1 and print the Customer Data Block. The value of the Home Location Code is the value you should enter for the Meridian 1 Network Node Address on the Network and System Parameters screen. The Meridian 1 Network Node Address is used by the NAC for logging on. On the NAC's Network Definition/Installation screen, the *Node Address* field must match the *Meridian 1 Network Node Address* field in the Meridian MAX system. The Meridian 1 Network Node Address must match the node address assigned to the Meridian 1. If no address was assigned to the Meridian 1, the default value is **338**.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	The *NAC to MAX Login Password* field is used with the NAC product. If your Meridian MAX 7 system is to be connected to the NAC, then this password must match the password used in the NAC system for NAC to MAX login. If your system is not to be connected to the NAC, then press **{RETURN}**. If your system has the MAX Status Interface (MSI) option, the *MSI Link* field appears. This field indicates the status of the MSI link to the central real-time load management system. A status of either enabled or disabled can be indicated. If the link status changes while the screen is being viewed, the change is not reflected on the screen. Press **{PF2}** to access the Options menu to enable or disable the MSI Link. The *MAX IP Address* and *MAX Hostname* fields appear if your system has at least one LAN session defined or the MSI option enabled. The *MAX IP Address* is the LAN address code assigned by your LAN administrator to your MAX. The *MAX Hostname* is the name assigned to that MAX. The *MAX Subnet Mask* field is used to modify the subnet mask. It is a 32-bit number used for improving network efficiency. This optional field only appears if your system has at least one LAN session defined or the MSI option enabled. Press **{PF2}** to access the Options menu to change the subnet mask. The MAX subnet mask is not needed to connect to the network. If the subnet mask needs to be changed, obtain the address from your LAN administrator. The *MAX Default Router/Gateway Address* field is used to specify the router or gateway used with Meridian MAX. This optional field only appears if your system has at least one LAN session defined or the MSI option enabled. Press **{PF2}** to access the Options menu to specify the router or gateway. The MAX Default Router/Gateway Address is not needed to connect to the network. If the router/gateway address needs to be changed obtain the address from your LAN administrator.
11	After you have entered the information, press **{PF1}** and select the "Save Changes and Exit" command. The system saves your entries.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
12	The MAX Hardware and System Parameters screen is returned. Enter **3**, followed by **{RETURN}** to exit.
13	If you are performing an operating mode procedure, such as switching from Training to Precutover, or from Precutover to Product, return to your operating mode procedure.
14	The system displays the Basic Capacity Configuration screen. This screen is an example only. Your values may differ.

```
Basic Capacity Configuration
                    Expected   Maximum     Eff. Date 1993/07/06          NEW
M1 Positions             800      1200
M1 Supervisors            50       100
Agent IDs               1500      2400   Disk Space
DNIS                     200       500     Available              350 MB
Activity Codes           100       500     Expected               345 MB
Avg. Calls per Hour     9000     15000

Queues          ( 110)              240                        Expected   Maximum
  ACD-DNs                 80              Operation Hours
  CDNs                    20                Agent Shifts Per Day     2         5
  IVR/MAIL                10                Hours Per Day           14        24
Routes          ( 251)              256       Days Per Week            5         7
  RAN                     20
  ACD Auto Term (AT)     120              Storage Duration
  ACD Non AT             111                Interval Data (days)     8
ACD Trunk Level Rpt      OFF                Daily Data (days)       31
ACD Trunks        (1800)              1800   Weekly Data (weeks)     56
  Auto Termin (AT)       600              Monthly Data (months)    36
  Non AT                1200              Event Log Data (days)     4

Help - Help PF1 - Commands PF2 - Options Remove - Erase field                F20 ->>
```

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	The Basic Capacity Configuration screen displays limits or maximums for the various capacity configuration parameters. These limits are either configured by the user, or imposed by the hardware or by the purchased options. Any changes to the parameters automatically changes the disk space requirements. After you save the MAX capacity configuration in a new installation, the *Eff. Date* (Effective Date) field picks up the precut time which starts at June 22, 1989, 12:00 noon. This time continues until the system is switched to product mode and a reconfiguration is performed in product mode. ***Note:*** If you change your terminal type by pressing {CONTROL}{T}, all unsaved changes on the screen are lost. If you do not want to lose your changes, choose the same terminal type after pressing {CONTROL}{T}.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	System maximum values The system maximum values, displayed on the screens of a new capacity configuration, serve as a reminder of the system's maximum capacity. These maximums cannot be exceeded or modified by the user. If you are attempting a new installation, the operating hours and storage duration values are system-defined defaults, while all other fields display the system minimum values. (The — sign means a value does not apply for that field.) If you are attempting a capacity reconfiguration, your system database is created using the values from the previous database. Where applicable, these values are displayed. **Expected** The "*Expected*" values are the maximums capacities to be expected for the Meridian MAX. These maximums must be within the values displayed in the *"Maximum"* column. This column is filled with default values for a new installation, or the previous expected capacity values for a capacity reconfiguration. For a new installation or installation upgrade, these values can be changed. The values become view-only once the new configuration is saved. **Measured / Maximum** If you select the "Current" configuration view (if enabled), this column shows the "*Measured*" values of the current Capacity Configuration parameters which are the capacity maximums reached in a previous Meridian MAX operation. ***Note:*** Detailed field descriptions for the Basic Capacity Configuration screen's measured values can be found in Table 10-3. If you are configuring a new system, this column shows the "*Maximum*" values of the capacities set by the system. You cannot alter the values in this column. For fields where no artificial maximum applies, a blank is displayed. Queues, routes and trunks only have a maximum for their totals, not for their components.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Function keys **Help = Help** Pressing this key displays the help text. **PF1 = Commands** Pressing this key displays a pop-up menu listing all or some of the following commands. Each command and its function is described. **Exit without Saving** If enabled, this field exits without saving changes. **View Current Configuration** If enabled, this field displays the Basic Capacity Configuration screen of the current configuration when the Meridian MAX is shut down. **Restart with Initial Values** This field restores the starting values of a new configuration in the "Expected" column and restarts the editing session. This option is available only if a new configuration is displayed on the screen. **Return to New Configuration** This field returns you to the new configuration of the Basic Capacity Configuration screen. This option is available only when viewing the current configuration when the Meridian MAX is shut down. **Print Current Configuration** This field prints a report of the "Current" configuration to the default printer. This option is available only when viewing the current configuration. **Save Configuration and Exit** This field saves the new configuration and exits. This selection is only available if a new configuration is shown on the screen.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

PF2 = Options
Pressing this key shows valid field ranges.

Remove = Erase field
Pressing this key resets an entered value in the selected field to the minimum value allowed.

PF6 = Advanced Capacity
Pressing this key changes the display from the Basic Capacity Configuration screen to the Advanced Capacity Configuration screen of the configuration when the Meridian MAX is shut down.

PF7 = Validate fields
Pressing this key validates the field value. If there are any errors, a window appears in the upper right-hand corner of the screen, describing the error. Once the error is corrected, the error pop-up window disappears or another error message appears. If there are no errors, the message "Validation is complete. There are 0 errors." is displayed at the bottom of the screen.

Whenever you press the [Validate fields] key during an installation upgrade or capacity reconfiguration, the following message appears.

```
Checking for any potential loss of data...
```

If no potential loss of data occurs, the system continues.

If a potential loss of data does occur, the following message appears in a pop-up window.

```
Warning—Potential Data Loss

The new configuration will retain
    XX of YY days of existing interval data
    XX of YY days of existing daily data
    XX of YY weeks of existing weekly data
    XX of YY months of existing monthly data
    XX of YY days of existing event log data
```

(where XX represents the number of the data units that will be retained, and YY represents the number of data units currently stored in the database)

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response

This message is followed by another message that explains what fields need to be adjusted to avoid data loss. For example, the following message explains the potential trunk data loss.

```
If you do not wish to lose data, please adjust storage duration
fields, avg. calls per hour or trunk level report. If trunk level
report is OFF, you may also adjust the number of routes. If it is ON,
you may adjust the number of trunks, the trunk reassignment
percentage, the number of call transfers received per queue or the
number of primary answering queues.

Press ENTER to continue.
```

Press **{RETURN}** to return to the Basic Capacity Configuration screen. Change the fields listed in the message and repeat the validation until no data loss occurs.

Fields

Note: Detailed field descriptions for the Basic Capacity Configuration screen's measured values can be found in Table 10-3.

Eff. Date
This field shows the date on which the configuration occurs. It can be viewed but not changed.

New / Current
This field shows the configuration status of the screens. If you are configuring a new capacity, the field displays "New." Once this configuration is saved, or if you are viewing a current configuration, this field displays "Current."

Disk Space (MB)
This field shows the disk space usage in megabytes (1 048 576 bytes).

Available
Available is the disk space available for use by the historical data collection.

Expected
Expected is the disk space usage forecasted for the configuration entered.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Hint This column appears next to the Storage Duration fields only when the expected disk space exceeds the amount of available disk space. This column is used to indicate suggested values for each storage duration field that would reduce the expected disk space to a size that falls within the amount of available disk space. Once that value is achieved, the Hint column disappears. If you entered all the Hint values for the applicable fields, and the expected disk space still exceeds the available disk space, change the values in other fields until the expected disk space value is equal to or less than the available disk space value. ***Note:*** As the field values for the storage duration change, the suggested values for the fields in the Hint column can change as well indicating further modification is needed. **M1 Positions** This field shows the total number of positions defined on the Meridian 1 switch that are reported on by Meridian MAX. The range for this value is from one to the maximum number of positions defined as the system limit. The number of M1 Positions must not exceed the number of Agent IDs. **M1 Supervisors** This field shows the total number of supervisors defined on the Meridian 1 switch that are reported on by Meridian MAX. The range for this value is from one to the maximum number of supervisors defined as the system limit. **Agent IDs** This field shows the total number of ACD agents. The range for this value is from one to the maximum number of agents defined as the system limit if Meridian MAX is in agent ID mode. If Meridian MAX is in position mode, the number of ACD agents cannot be edited and is set to be equal to the number of positions.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	DNIS This field shows the total number of Dialed Number Identification Services (DNIS). The range for this value is from one to the maximum number of DNIS defined as the system limit. **Activity Codes** This field shows the total number of activity codes expected to be used. The range for this value is from one to the maximum number of activity codes defined as the system limit. The number of activity codes used at each queue is defined on the Advanced Capacity Configuration screen. **Avg. Calls per Hour** This field shows the average number of calls received by the Meridian 1 switch per hour. The range for this value is from two to the maximum number of calls per hour defined as the system limit. The average number of calls per hour must be an even number. **Queues** This field shows the total number of ACD queues. This value includes ACD-DN, Control DN (CDN) and Interactive Voice Response (IVR) queues. The value in the round brackets, which appears on the screen next to the Queue heading, is the total number of ACD queues specified. If one of the queue values is changed, the total number is updated. The total number of queues must be greater than 0 (zero) and cannot exceed the maximum number of ACD queues allowed. **ACD-DNs** *ACD-DNs* are the number of ACD queues. The range for this value is from one to the maximum number of ACD queues minus the total number of CDN and IVR queues.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	CDNs *CDNs* are the number of Control Directory Numbers (CDN) queues. The range for this value is from 0 (zero) to the maximum number of ACD queues minus the number of ACD-DN and IVR queues. If 0 (zero) is entered, no CDN report is generated by the Meridian MAX. This field is only available if the Customer Controlled Routing (CCR) option is enabled. The number of CDNs is expected to be greater than 0 (zero) when Customer Controlled Routing (CCR) is enabled. **IVR/MAIL** *IVR/MAIL* is the number of Interactive Voice Response (IVR) queues. The range for this value is from 0 (zero) to the maximum number of ACD queues minus the number of ACD-DN and CDN queues. **Routes** For this field, the total number of routes must be greater than 0 (zero). **RAN** *RAN* is the number of Recorded Announcement (RAN) routes. The range for this value is from 0 (zero) to the maximum number of routes minus the number of ACD Auto Terminate (AT) and ACD Non AT routes. **ACD Auto Term (AT)** *ACD Auto Term (AT)* is the number of ACD Auto Terminate routes. The range for this value is from 0 (zero) to the maximum number of routes minus the number of RAN and ACD Non AT routes. The number of Auto Terminate (AT) routes must be equal to or less than the number of Auto Terminate (AT) trunks. Also, the number of Auto Terminate (AT) routes and the number of Auto Terminate (AT) trunks must both be equal to 0 (zero) or both greater than 0 (zero).

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	ACD Non AT *ACD Non AT* is the number of ACD Non Auto Terminate routes. The range for this value is from 0 (zero) to the maximum number of routes minus the number of RAN and ACD Auto Termin (AT) routes. The number of ACD Non AT routes must be equal to or less than the number of Non AT Trunks. The number of ACD Non AT routes and the number of Non AT Trunks must both be equal to 0 (zero) or both greater than 0 (zero). **ACD Trunk Level Rpt** This field indicates whether the ACD trunk level detailed reporting is turned on or off. It is recommended that the ACD Trunk Level Reporting field be turned off. This saves disk space and also improves the performance of the Meridian MAX system. If an error message, indicating that the process table is full, appears in the system error log, the system load is too high. Trunk Level Reporting should then be turned off if it is not already so. ***Note:*** Data will be lost if the Trunk Level Reporting is turned off at this point. **ACD Trunks** This field shows the total number of trunks. This total includes ACD AT and ACD Non AT trunks. The value in the round brackets, which appears on the screen next to the ACD Trunks heading, is the total number of ACD trunks specified. If one of the trunk values is changed, the total number is updated. The total number of ACD Trunks must be greater than 0 (zero).

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response

Auto TermIn (AT)
Auto Termin (AT) is the number of ACD Auto Terminate trunks. The range for this value is from 0 (zero) to the maximum number of trunks minus the number of ACD Non AT trunks.

There can be no more than 126 Auto Terminate (AT) trunks for each ACD Auto Terminate (AT) route.

The number of ACD Auto Terminate (AT) trunks must be greater than or equal to the number of ACD Auto Terminate (AT) routes. Also, the number of ACD Auto Terminate (AT) routes and the number of Auto Terminate (AT) trunks must both be equal to 0 (zero) or both greater than 0 (zero).

Non AT
Non AT is the number of ACD Non Auto Terminate trunks. The range for this value is from 0 (zero) to the maximum number of ACD trunks minus the number of ACD Auto Termin (AT) trunks.

The number of ACD Non Auto Terminate (AT) trunks must be equal to or greater than the number of ACD Non AT routes.

There can be no more than 126 ACD Non AT trunks for each ACD Non AT route.

Operating Hours
The operation time parameter group.

Agent Shifts Per Day
This field shows the number of agent shifts (agent rotations) per day. The range for this value is from one to five.

Hours Per Day
This field shows the number of hours of operation per day. This value is used to determine the number of intervals per day. The range for this value is from one to 24. To track night call abandon statistics in night service mode, the Hours Per Day should be set to 24.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Days Per Week This field shows the number of workdays per week. The range for this value is from one to seven. To track night call abandon statistics in night service mode, the Days Per Week should be set to 7. **Storage Duration** These fields display the storage duration time for each parameter. **Interval Data (days)** This field shows the number of days for interval data storage. The range for this value is greater than or equal to two. The amount of shift data on a printed report depends on the amount of interval data. **Daily Data (days)** This field shows the number of days for daily data storage. The range for this value is greater than or equal to one. The amount of period data on a printed report depends on the amount of daily data. **Weekly Data (weeks)** This field shows the number of weeks for weekly data storage. The range for this value is greater than or equal to one. **Monthly Data (months)** This field shows the number of months for monthly data storage. The range for this value is greater than or equal to one. **Event Log Data (days)** This field shows the number of days for agent event log data storage. The range for this value is greater than or equal to two.
15	When you have completed the Basic Capacity Configuration screen, you must press **{F6}** to view and/or alter the Advanced Capacity Configuration screen.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
16	The Advanced Capacity Configuration screen follows the Basic Capacity Configuration screen. This screen is an example only. Your values may differ.

```
 Advanced Capacity Configuration
                    Expected   Default     Eff. Date 1993/07/06              NEW
Queue Operations (per int.)
  Dest. Qs per CON         4         4
  Dest. Qs per ACD-DN      5         5   ┌ Disk Space ──────────────┐
  Rem. Src. Qs per ACD-DN  2         2   │ Available          350 MB │
  Primary Answering Qs    90        90   │ Expected           345 MB │
                                          └──────────────────────────┘
Trunk Reassignment (per int.)
  AT Trunk to Queue      10%       20%                      Expected   Default
  Qs Receiving Transfers  2         2    Agent Events (per day)
                                           Logins per Agent         4         4
Position Reassignment (per int.)           Walkaways per Agent     10        10
  Pos. to Supervisor     10%       10%
  Pos. to Queue          10%       10%

Activity Code Usage (per int.)
  Activity Codes per Q    10        10

Qs logged in per Agent     3         5


Help - Help    PF1 - Commands    PF2 - Options    Remove - Erase field    F20 - >>
```

The Advanced Capacity Configuration screen displays the expected limits for the various capacity configuration parameters in the "Expected" column. Any changes to the parameters automatically change the disk space requirements.

Expected
The expected or required capacity for the configuration shown. The initial values in this column are calculated from the parameters entered in the Basic Capacity Configuration screen, for a new installation, or the previous expected capacity values for a Meridian MAX upgrade or capacity reconfiguration.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Measured / Default If you select to view the "Current" configuration (if enabled), this column shows the *"Measured"* values of the current Capacity Configuration parameters. ***Note:*** Detailed field descriptions for the Advanced Capacity Configuration screen's measured values can be found in Table 10-4. If you are configuring a new system, the "*Default*" column displayed on the screen shows the default values for the expected limits. The values are preset or derived from the values entered on the Basic Capacity Configuration screen. The system limits, though not seen in the previous screen, do exist for some of the *"Expected"* values. Press [Options] to see the valid ranges. **Function keys** **Help = Help** Displays the help text. **PF1 = Commands** Displays a pop-up listing the following commands. Each command and its function is described. **Return to the Basic Capacity Screen** If enabled, returns you to the Basic Capacity Configuration screen of either your new configuration when the Meridian MAX is shut down or your current configuration when Meridian MAX is running. **Restart with Initial Values** Restores the starting values of a new configuration in the "Expected" column and restarts the editing session from the Basic Capacity Configuration screen. This option is available only if your system is not yet configured or if your system is configured but the system is down. **View Current Configuration** If enabled, displays the "Current" Advanced Capacity Configuration screen when the Meridian MAX is shut down.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Return to New Configuration If enabled, returns you to the new configuration of the Advanced Capacity Configuration screen when the system is shut down. **Print Current Configuration** Prints a report of the current configuration to the default printer. This option is available only if the "Current" Meridian MAX configuration is shown on the screen. **PF2 = Options** Shows valid field ranges. **Remove = Erase field** Resets an entered value of the selected field to the minimum allowed value. **PF6 = Basic Capacity** If enabled, changes the display to the Basic Capacity Configuration screen. **PF7 = Validate fields** This field validates the field value. If there are any errors, a window appears in the upper right-hand corner of the screen, describing the error. Once the error is corrected, the error pop-up window disappears or another error message appears. If there are no errors, the message "Validation is complete. There are 0 errors." is displayed at the bottom of the screen.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Whenever you press the [Validate fields] key during an installation upgrade, the following message appears. `Checking for any potential loss of data...` If no potential loss of data occurs, the system continues. If a potential loss of data does occur, the following message appears in a pop-up window. `Warning–Potential Data Loss` `The new configuration will retain` `XX of YY days of existing interval data` `XX of YY days of existing daily data` `XX of YY weeks of existing weekly data` `XX of YY months of existing monthly data` `XX of YY days of existing event log data` (where XX represents the number of the data units that will be retained, and YY represents the number of data units currently stored in the database) This message is followed by another message that explains what fields need to be adjusted to avoid data loss. For example, the following message explains the potential trunk data loss. `If you do not wish to lose data, please adjust storage duration fields, avg. calls per hour or trunk level report. If trunk level report is OFF, you may also adjust the number of routes. If it is ON, you may adjust the number of trunks, the trunk reassignment percentage, the number of call transfers received per queue or the number of primary answering queues.`  `Press ENTER to continue.` Press **{RETURN}** to return to the Advanced Capacity Configuration screen. Change the fields listed in the message and repeat the validation until no data loss occurs.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Fields ***Note:*** Detailed field descriptions for the Advanced Capacity Configuration screen's measured values can be found in Table 10-4. **Eff. Date** This field shows the date on which the configuration occurs. This field can be viewed but not changed. **Disk Space** The disk space usage in megabytes (1,048,576 bytes). **Available** The disk space available for use by the historical data collection. **Expected** The disk space usage forecasted for the configuration entered. **Queue Operations (per int.)** The characteristics of ACD Queue operations. **Dest. Qs per CDN** This field shows the average number of destination queues per CDN in an interval. The range for this value is from 0 (zero) to the number of ACD-DNs and IVR queues. The number of destination queues per CDN must be equal to 0 (zero) when there is no CDN. The number of CDNs is expected to be greater than 0 (zero) when Customer Controlled Routing (CCR) is enabled. This field is available only if the Customer Controlled Routing (CCR) option is enabled.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Dest. Qs per ACD-DN The average number of local and remote destination ACD-DN and IVR queues in an interval to which an ACD call may overflow as the result of a queue overflow, a basic, enhanced, or network time overflow or an inter flow. The range for this value is from 0 (zero) to 20. **Rem. Src. Qs per ACD-DN** The average number of remote source ACD-DN and IVR queues per interval from which an ACD call may network time overflow to a local ACD-DN queue. The range for this value is from 0 (zero) to 50. **Primary Answering Qs** The average number of primary entering queues (ACD queues to which all ACD calls are first directed in the Meridian 1 switch) in an interval. The range for this value is from 0 (zero) to the total number of queues. The number of primary answering queues must not exceed the total number of queues. **Trunk Reassignments (per int.)** The trunk reassignment frequency. **AT Trunk to Queue** The average percentage of auto terminate trunks reassigned to another queue in an interval. The range for this value is from 0 (zero) to 100%. **Qs Receiving Transfers** The average number of manual call transfers received by an ACD-DN queue from another ACD-DN queue in an interval. The number of queues receiving transfers must not exceed the total number of queues.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Positions Reassignment (per int.) The position reassignment frequency. **Pos. To Supervisor** The average percentage of positions reassigned to another supervisor in an interval. The range for this value is from 0 (zero) to 100%. **Pos. To Queue** The average percentage of positions reassigned to another queue in an interval. The range for this value is from 0 (zero) to 100%. **Activity Code Usage (per int.)** The activity code operational pattern. **Activity Codes per Q** The average number of distinct activity codes used per ACD-DN and IVR queues (excluding CDN queues) in an interval. The range for this value is from 0 (zero) to the number of activity codes. The number of activity codes per queue must not exceed the total number of activity codes defined on the Basic Capacity Configuration screen. **Qs Logged in per Agent** An estimate of the average number of ACD-DNs serviced simultaneously per agent. This value does not limit the number of simultaneous logins per agent. The range for this value is from 1 to 5. The default value for a new installation is three if the MQA feature is enabled. If MQA is disabled, the default value is one. This field only appears if your system has MQA.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Agent Events (per day) The agent event frequency. **Logins per Agent** The average number of login events per agent in a day. A login and a log out are together counted as one event. The range for this value is from one to 999. **Walkaways per Agent** The average number of walkaway events per agent in a day. A walkaway and a return are together counted as one event. The range for this value is from 0 (zero) to 999.
17	When this screen is complete, press **{PF1}** and select the "Return to Basic Capacity Configuration Screen" command.
18	When the Basic Capacity Configuration screen is returned, press **{F1}** and choose the "Save configuration and exit" command.

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response
	Whenever you choose this command during an installation upgrade, the following message appears. If you are performing a new installation, go to Step 19. `Checking for any potential loss of data...` If no potential loss of data occurs, the system continues. Go to Step 19. If a potential loss of data does occur, the following message appears in a pop-up window. `Warning–Potential Data Loss` `The new configuration will retain` `XX of YY days of existing interval data` `XX of YY days of existing daily data` `XX of YY weeks of existing weekly data` `XX of YY months of existing monthly data` `XX of YY days of existing event log data` (where XX represents the number of the data units that will be retained, and YY represents the number of data units currently stored in the database) This message is followed by another message that explains what fields need to be adjusted to avoid data loss. For example, the following message explains the potential trunk data loss. `If you do not wish to lose data, please adjust storage duration fields, avg. calls per hour or trunk level report. If trunk level report is OFF, you may also adjust the number of routes. If it is ON, you may adjust the number of trunks, the trunk reassignment percentage, the number of call transfers received per queue or the number of primary answering queues.`  `Do you wish to proceed with the new configuration? (y/n)`

—continued—

Procedure 10-1 (continued)
Meridian MAX 7 port assignment and capacity configuration

Step	Installer's action and system's response

	If you do not wish to continue with the new configuration, enter **n**, followed by **{RETURN}**. The Basic Capacity Configuration screen returns with the Commands pop-up menu. Change the fields listed in the message until you are allowed to save and exit without potential data loss.
	
	If you do wish to proceed with the new configuration, enter **y**, followed by **{RETURN}**. The following message appears.
	
	`Press ENTER to continue.`
	
	Press **{RETURN}**. The following pop-up message appears.
	
	`You are saving a new capacity configuration that requires a database reconfiguration right after. This can take up to 15 minutes.`
	`If you do not wish to reconfigure the database now, please choose 'Exit without Saving' to lose your changes and re-enter them later.`
	
	`Do you wish to proceed with the database reconfiguration? (y/n)`
	
	If you do not want to proceed with the database reconfiguration, enter **n**, followed by **{RETURN}**. The Basic Capacity Configuration screen returns with the Commands pop-up menu. Change the fields listed in the message until you are allowed to save and exit without potential data loss.
	
	If you do want to proceed with the database configuration, enter **y**, followed by **{RETURN}**. The system will reconfigure the database and continue once the reconfiguration is complete.

19	Return to your software installation procedure.

—end—

Table 10-3 provides detailed information regarding measured value fields for the Basic Capacity Configuration screen.

Table 10-3
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
M1 Positions	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the switch has more positions defined than the Meridian MAX system. Meridian MAX only collects data for the expected number of positions. However, the measured value indicates to the user how many positions are actually defined on the switch. Measured values are not determined using historical data. They are determined using real-time data.
M1 Supervisors	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the switch has more supervisors defined than the Meridian MAX system.

—continued—

Table 10-3 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				Meridian MAX only collects data for the expected number of supervisors. However, the measured value indicates to the user how many supervisors are actually defined on the switch. If a supervisor is added on the switch, this will not be reflected by Meridian MAX automatically. For the added or deleted supervisors to be detected by Meridian MAX, a configuration update or Meridian 1 initialization is required. Measured values are not determined by using historical data. They are determined by using real-time data.
Agent ID	System lifetime data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the number of Agent IDs used exceeds the expected number of Agent IDs. Meridian MAX only collects data for the expected number of Agent IDs. However, the measured value indicates to the user how many Agent IDs are actually used.

—continued—

Table 10-3 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				This number is updated at the end of every interval. It denotes the total number of agents used over the system lifetime. Agents are never deleted. If an agent logs out, the agent is not considered deleted. The agent still exists but is not operational. Therefore, the Agent ID number can only increase.
DNIS	Current day data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the total number of DNIS numbers used exceeds the expected number. Meridian MAX only collects data for the expected number of DNIS numbers. However, the measured value indicates to the user how many DNIS numbers are actually used. This number is updated at the end of every interval. It denotes the number of DNIS numbers used throughout the current day. The DNIS measured number is reset at midnight and the count restarts.

—continued—

Table 10-3 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
Activity Code	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the number of activity codes used exceeds the expected number. Meridian MAX only collects data for the expected number of activity codes. However, the measured value indicates to the user how many activity codes are actually used. This number is updated at the end of every interval. It denotes the total number of activity codes used over the system lifetime.
Avg. Calls per Hour	Current day data	End of interval	Average	This value is updated at the end of each interval. It is the average number of simple calls that are received throughout the current day. At midnight, this value is reset.
Queues	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the switch has more queues defined than the Meridian MAX system.

—continued—

Table 10-3 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				Meridian MAX only collects data for the expected number of queues. However, the measured value indicates to the user how many queues are actually defined on the switch. This value is the total number of ACD-DNs + CDNs + IVR/Mail queues. It is updated at the end of each interval. Measured values are not determined by using historical data. They are determined by using real-time data.
ACD-DNs	N/A	N/A	N/A	The sum of the number of ACD-DNs and IVR/Mail queues indicates the maximum number of ACD-DNs or IVR/Mail queues for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
CDNs	N/A	N/A	N/A	This number indicates the maximum number of CDNs for which Meridian MAX collects data.

—continued—

Table 10-3 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
IVR/MAIL	N/A	N/A	N/A	The sum of ACD-DNs and IVR/Mail queues indicates the maximum number of ACD-DNs or IVR/Mail queues for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
ACD Trunk Level Reporting	N/A	N/A	N/A	The valid values for this field are ON or OFF. Measured values are not determined by using historical data. They are determined by using real-time data.
Routes	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. The measured value may exceed the expected value only if the switch has more routes defined than the Meridian MAX system.

—continued—

Table 10-3 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				Meridian MAX only collects data for the expected number of routes. However, the measured value indicates to the user how many routes are actually defined on the switch. This value is the total sum of RAN routes, ACD Auto Terminate (AT) routes, and ACD Non AT routes
RAN	N/A	N/A	N/A	This number indicates the maximum number of RAN routes for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
ACD Auto Terminate (AT)	N/A	N/A	N/A	The sum of the number of ACD AT and ACD Non AT routes indicates the maximum number of ACD AT or ACD Non AT routes for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.

—continued—

Table 10-3 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
ACD Non AT	N/A	N/A	N/A	The sum of the number of ACD AT and ACD Non AT routes indicates the maximum number of ACD AT or ACD Non AT routes for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
ACD Trunks	Real-time data	End of interval	Exact number	The measured value is an exact number and not an average. This number is the total number of Auto Terminate (AT) trunks and Non AT Trunks. If trunk level reporting is turned off, the measured route number is used.
Auto Terminate (AT)	N/A	N/A	N/A	The sum of the number of AT and Non AT trunks indicates the maximum number of AT or Non AT trunks for which Meridian MAX collects data. This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Non AT Trunks	N/A	N/A	N/A	The sum of the number of AT and Non AT trunks indicates the maximum number of AT or Non AT trunks for which Meridian MAX collects data.

—continued—

Table 10-3 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
				This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Operation Hours	N/A	N/A	N/A	
Agent Shifts Per Day	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Hours Per Day	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Days Per Week	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Storage Duration	N/A	N/A	N/A	These fields are updated every day at approximately 2 a.m. after the daily midnight backup.
Interval Data (days)	All stored intervals	Daily	Exact number	This number indicates the amount of interval data, measured in days, currently stored on the system.
Daily Data (days)	All stored days	Daily	Exact number	This number indicates the amount of daily data, measured in days, currently stored on the system.

—continued—

Table 10-3 (continued)
Basic Capacity Configuration measured value field descriptions

Field name	Time	Update rate	Measured value	Comment
Weekly Data (weeks)	All stored weeks	Daily	Exact number	This number indicates the amount of weekly data, measured in weeks, currently stored on the system.
Monthly Data (months)	All stored months	Daily	Exact number	This number indicates the amount of monthly data, measured in months, currently stored on the system.
Event Log Data (days)	All stored days	Daily	Exact number	This number indicates the amount of agent event logged data, measured in days, currently stored on the system.

—end—

Table 10-4 provides detailed information regarding measured value fields for the Advanced Capacity Configuration screen.

Table 10-4
Advanced Capacity Configuration measured value field descriptions

Field name	Storage duration	Update rate	Measured value	Comment
Queue Operations (per int.)	N/A	N/A	N/A	
Dest. Qs per CDN	All stored months	Once per week	Average	The measured value provides the average number of target ACD-DNs per CDN to which calls are directed through CCR. The period of time for which this measurement is taken for is defined in the Storage Duration – Monthly Data field. The measured value may exceed the expected value.
Dest. Qs per ACD-DN	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Rem. Src. Qs per ACD-DN	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Primary Answering Qs	All stored months	Once per week	Exact number	The measured value provides the number of unique queues (ACD-DN, CDN, and IVR/Mail) to which all external calls are directed.

—continued—

Table 10-4 (continued)
Advanced Capacity Configuration measured value field descriptions

Field name	Storage duration	Update rate	Measured value	Comment
				The period of time for which this measurement is taken for is defined in the Storage Duration – Monthly Data field. The expected value denotes the number of unique queues (ACD-DN, CDN and IVR/Mail) per interval that would receive external calls. Therefore, the measured value could exceed the expected value.
Trunk Reassignment (per int.)	N/A	N/A	N/A	
AT Trunk to Queue	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Qs Receiving Transfers	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Position Reassignment (per int.)	N/A	N/A	N/A	
Pos. to Supervisor	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.

—continued—

Table 10-4 (continued)
Advanced Capacity Configuration measured value field descriptions

Field name	Storage duration	Update rate	Measured value	Comment
Pos. to Queue	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Activity Code Usage (per int.)	N/A	N/A	N/A	
Activity Codes per Q	All stored intervals	Once per week	Average	The measured value provides the average number of activity codes per ACD-DN per interval. The period of time for which this measurement is taken for is defined in the Storage Duration – Interval Data field. The measured value may exceed the expected value.
Qs Logged in per Agent	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Agent Events (per day)	N/A	N/A	N/A	
Logins per Agent	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.
Walkaways per Agent	N/A	N/A	N/A	This field has no measured value. Meridian MAX uses the expected number entered by the user to determine the expected database size.

—end—

Chapter 11: Software installation overview

A word about warranties

It is extremely important that you read and understand the warranties issued for your peripheral equipment. Each warranty details what you can and cannot do with the warranted item.

While the utmost care has been taken to ensure that the procedures described in this NTP do not void any of the warranties, it is still possible for an instruction to be in conflict with a warranty, such as warranty changes after the publication of this NTP. If you find such a condition, contact your dealer or Nortel service representative and inform them of the problem.

ATTENTION

Under no circumstances should you void your warranty for the sake of following any instruction given in this (or any other) document. Be sure to register your warranties with the appropriate companies (usually the manufacturers) where required.

Note: Meridian 1 Option 114 (Security Package) is a prerequisite for Meridian MAX 7.

Meridian MAX 7 platforms

Because there are a variety of hardware and software configurations for Meridian MAX 7, a number of software installation procedures are available. Table 11-1 lists the two Meridian MAX 7 platform abbreviations and their hardware compositions.

Table 11-1
Meridian MAX 7 platform compositions

System type		CPU	Mass Storage Unit (MSU)	
Abbreviation	**Module type**	**Card type**	**Hard drive**	**Cassette drive**
SNN	Single	MVME167-34	1.2 Gbyte	600 Mbyte
IPE	IPE	SMM167	180 Mbyte, 240 Mbyte* or 1.2 Gbyte*	155 Mbyte or 600 Mbyte

* The 1.2-Gbyte and 240-Mbyte hard disks are configured and recognized by the software as a 180-Mbyte hard disk.

Keycodes

During any Meridian MAX 7 installation or upgrade, you are required to enter a 20-character alphanumeric keycode. This keycode represents your system options, system hardware and Meridian 1 serial number. Those options are then displayed on the screen for your verification during your installation or upgrade.

All keycodes are obtained from your Nortel distributor and any change in system options requires the generation of a new keycode. Once you have your updated keycode, your current application tape is used to update your system options. Any application tape can be used with any hardware platform provided the Meridian 1 serial number is the same and you have a unique keycode for each system.

The following keycode information is displayed during your installation or upgrade for verification:

- serial Number
- platform
- number of ports

- maximum number of position IDs
- number of LAN supervisor sessions
- Configuration Control (enabled/disabled)
- Formula Definition (enabled/disabled)
- NAC Connectivity (enabled/disabled)
- MSL-1 NACD MIS (enabled/disabled)
- CCR/EAR MIS (enabled/disabled)
- datastream reporting (enabled/disabled)
- M1 Terminal Emulator (enabled/disabled)
- MAX Status Interface (MSI) (enabled/disabled)
- Multiple Queue Assignment (MQA) (enabled/disabled)

Note: The MSI link must also be enabled through the Miscellaneous Options screen in Parameter Administration. Refer to *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Parameter Administration" chapter, "Miscellaneous Options" section, for more information.

You can also refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown", "MAX Hardware Configuration" section, "System Parameters" subsection, for more information.

New software installations

If your operation has never used an ACD-MAX or Meridian MAX system, you can only install a Meridian MAX 7 SNN or a Meridian MAX - IPE 7.

Both the SNN and IPE platforms have two types of new software installations—customer-installed or factory-installed. You perform the applicable procedure the first time you install the system. Refer to the "New software installations" chapter for more information.

Load new software release

As new releases of Meridian MAX 7 software are developed, you can purchase an updated version of the software and install it onto your Meridian MAX 7 system. To install the software, you would perform the load new software release procedure. Refer to the "Loading a new software

release" chapter for more information, and the procedure that applies to your system.

Software reinstallations and upgrades

Reinstallations

A software reinstallation is performed when you need to reinstall existing Meridian MAX 7 system software, if, for example, a problem arises with an installation. If a problem does occur, the system asks you to reattempt the installation. Determine whether hardware is causing the problem (for example, missing or improperly connected equipment), and correct these problems before restarting the installation. If there is a problem with installing a factory-installed software site, the customer-installed software procedure should be used. If no hardware problem exists, then restart the installation. If the problem persists, contact your distributor or Nortel support group for assistance.

If you need to perform a reinstallation or upgrade, refer to the "Software reinstallations and upgrades" chapter.

Software upgrades

As your operation grows, you may require greater Meridian MAX functionality and capacity. This growth can be accommodated through hardware and software upgrades within Meridian MAX 7. System functionality can be increased through software upgrades, once the necessary hardware changes are complete. A software upgrade is performed when you want to install new Meridian MAX 7 software that changes the system's features and functionality.

A software upgrade can be performed in two ways. The first is within the same Meridian MAX platform, such as upgrading a current SNN system to an SNN system with more features and functionality. The second is between Meridian MAX 7 platforms, such as upgrading an IPE system's software to SNN system's software, providing you completed the necessary hardware changes.

Application upgrades

Application upgrades are performed when you want to modify existing options or add new options to your existing system. No hardware changes are required.

Upgrading from Meridian MAX 3 through 6, or ACD-D systems

If you are currently running a Meridian MAX 3 or 4 single- or dual-module system, a Meridian MAX - IPE 4.6 system, a Meridian MAX 5 or 6 system, or an ACD-D system, refer to the *Meridian MAX 7 Installation Upgrade Guide for Meridian MAX 3 through 6 Systems* (NTP 553-4001-210) for the specific upgrade procedure to upgrade to a Meridian MAX 7 system.

Upgrading from ACD-MAX 3 and 4 systems

If you are currently running an ACD-MAX 3 or 4 system, you must first upgrade to a Meridian MAX 6 system before upgrading to Meridian MAX 7. Contact your Nortel representative for more information.

Retained port assignments

Port assignments are not retained if

- you are performing an installation upgrade that involves a change in hardware platform (For example, Meridian MAX 7 IPE to Meridian MAX 7 SNN), or
- the number of available ports on the new system is less than the number of available ports on the old system

If your upgrade has no hardware platform change and the new number of ports is equal to or greater than the number of ports on the previous system, all port assignments are retained.

If you want to change your port assignments after the installation is complete, you must alter the port assignments through maintenance. Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" or "Maintenance and administration programs: system shutdown" chapter, "Configure Meridian MAX System" section, for more information.

Backups

Backups are a vital link in the data integrity of any system. While you may never have a need for backups, nothing can replace them in the event of a major system failure.

You should always perform a backup on your current system before starting any of these procedures.

To perform a backup, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system shutdown" section, "Backup and Restore Utilities" section.

CAUTION
Risk of data loss

The backup tape will not contain the current day's data if the backup is done while the system is running. To save the current day's data on tape, the system must first be shut down. Refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX options" section, "Shut down the system" subsection, for more information.

Table 11-2 shows the backup tape units and types for each Meridian MAX system.

Table 11-2
Meridian MAX backup tapes

Meridian MAX system	Tape unit (Mbytes)	Tape type
IPE	150	Maxell CS-600-XD
IPE	600	Maxell CS-600-SX
SNN	600	Maxell CS-600-SX

Data is backed up automatically at midnight. In the event of a failure where data is lost, the backup can return all data up to the point when the backup was taken. Any data lost between when the backup was taken and when the failure occurs can sometimes be recovered (depending on the nature of the failure). Ensure that a backup tape is in the Meridian MAX tape drive for the midnight backup.

Additional backups, once per week and once per month, are recommended.

Each backup copies the most current information from the Meridian MAX database to a cassette tape. Any information on the tape prior to the backup procedure is erased before the current information is copied. You may choose to recycle your backup tapes to reduce the number of tapes required. A minimum of three backup tapes is recommended. You should not use the same tape for two consecutive backups as a failure during the procedure would cause you to lose the tape's original information as well as the current information.

Reentry points

Meridian MAX 7 software has four installation reentry points for both the SNN and IPE hardware platforms. If a software installation must be aborted at some point, the installation can be restarted from the last successfully completed section of the installation. For example, if an installation had to be aborted after the OS files had been copied to the hard disk, but before the application files were copied, the installer can skip over the successfully copied OS files and go to the point just before the application files were copied.

> ***Note:*** The system only displays the reentry points available for your installation. You cannot skip steps that were not successfully completed.

Check your error log and system messages when the software installation procedure is complete to ensure no errors were reported. If you want to use a reentry point, check that no errors were reported within the steps you want to skip. If you are unsure, restart the installation from the beginning. If the errors persist, contact your Nortel distributor.

If an error message appears on the screen, perform a graceful shutdown of the system. The system provides prompts and messages for the shutdown.

CAUTION
Risk of data corruption
If the system is shutdown improperly, unpredictable results may occur.

The reentry points for a Meridian MAX system are

1 from the beginning

2 prior to copying the OS files to the hard disk

3 prior to copying the Meridian MAX application files to the hard disk

4 prior to booting from the hard disk

For more information on software reinstallations, software upgrades, and application upgrades, refer to the "Software reinstallations and upgrades" chapter.

Before starting any upgrade, verify that the system is performing properly. Check the MAX error log and the UNIX system log (when appropriate) to verify that midnight backups are successfully completed. Schedule an upgrade to be completed before 11:30 p.m. or started after 1:00 a.m. so that the regular MAX midnight routines are executed properly.

Changes in the number or type of workstations or printers do not require an upgrade, but do require a port assignment reconfiguration for the Meridian MAX system. This reassignment can be done while the system is running or shutdown. When the system is running, the On-line Port Assignment feature is used. For more information, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" or "Maintenance and administration programs: system shutdown" chapter, (depending if your system is active or inactive), "Configure Meridian MAX System" section, "MAX Hardware Configuration" subsection. Use the "Workstation configuration" procedure, in the "Workstation, HSL, and LML configuration" chapter, to configure a VDT or PC workstation that you have not previously configured.

Installation tapes

All procedures use one or two cassette tapes. Care must be taken to avoid damaging the tape, as its fragility can result in tape errors during the installation procedure. Also ensure that installation tapes are set to write-protected before using them. Keep tapes away from excessive heat or electromagnetic radiation. Figure 11-1 shows the correct method for inserting a tape cassette into the 600-Mbyte tape drive of a Meridian MAX - IPE 6 or 7 system or a Meridian MAX SNN system. Figure 11-2 shows the correct method for inserting and locking a tape cassette into the

155-Mbyte tape drive of a Meridian MAX - IPE 6 or 7 system. Make sure the arrow on the label points towards the drive, and that the notch in the cassette tape is pointing down. After the tape is inserted, rotate the tape drive latch clockwise until the latch handle is horizontal.

Verify that all features on the application tape label are correct before starting the upgrade procedure. Log on as **maint**, then enter **v** to view all of the existing features. Make sure your tape label lists all the features your system requires.

When following instructions within the procedures regarding cassette tapes, this document refers to the tapes by functional application names, rather than by the labels you see on the different tapes. Table 11-3 cross-references the tape application name used within a procedure and the label on the tape.

Table 11-3
Tape names

Tape name used in procedure	Tape label
Generic Operating System tape	System V68 R3 V7.1 OS_MAX_R7.x
Meridian MAX Application tape	Meridian MAX R7.x

CAUTION
Risk of data corruption
Do not power off a module without first performing the system shutdown procedure.

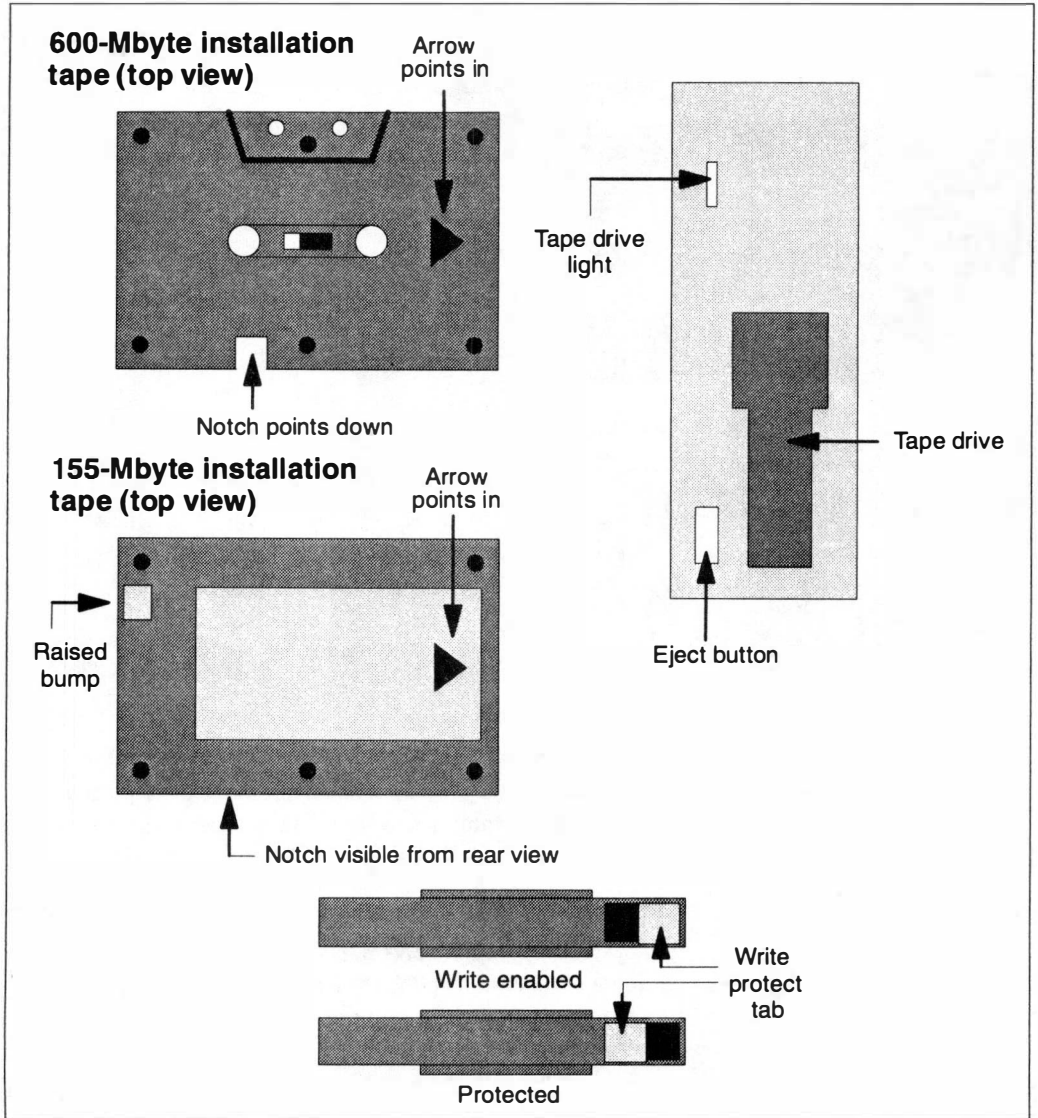
The Meridian MAX module must not be powered off without first shutting down the system. The shutdown process synchronizes the information currently in system memory with the information on the hard drive. Only in extenuating circumstances should the module be powered off without first shutting down.

If an error occurs during installation, a graceful shutdown must be done to ensure that the system is stable. Unpredictable results may occur if the system is not shut down properly.

To insert or remove a cassette tape from the Meridian MAX 7 module's tape drive, the front panel may be removed for short periods of time. If you do not need to access the module shortly afterwards, make certain that the front panel (and rear panel, if using Option 21-81) is properly replaced. You must always close and properly latch all panels while the Meridian MAX module is powered on. This procedure ensures that the temperature within the cabinet remains reasonably constant, and within the operating temperatures of the equipment.

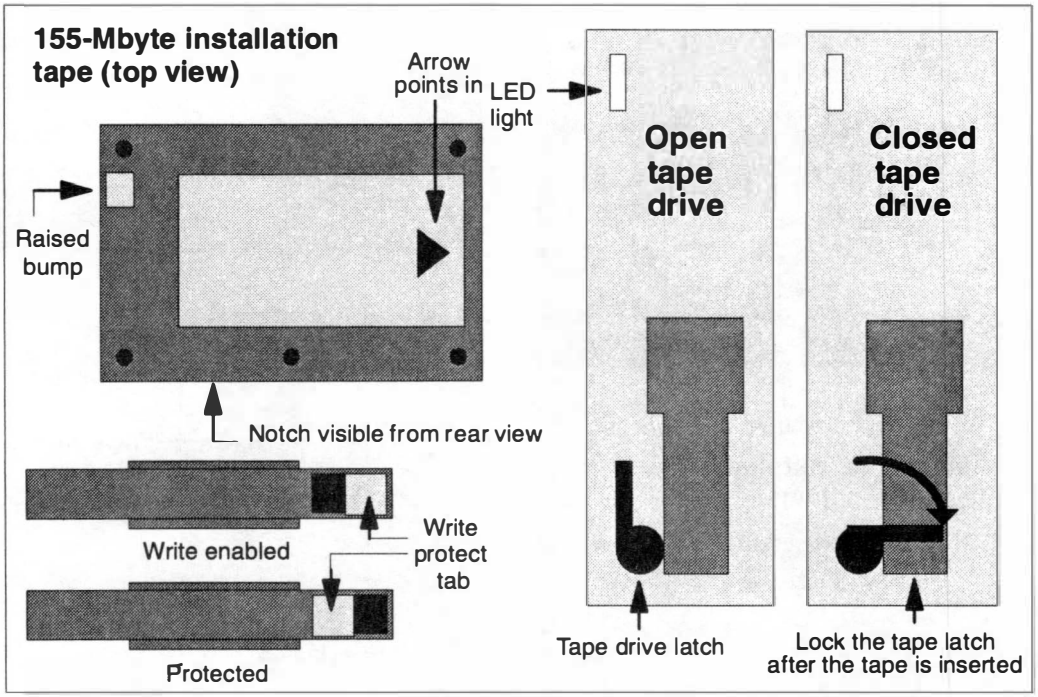
Note: If the cassette tape is inserted incorrectly into the 600-Mbyte tape drive, the tape automatically ejects. Reinsert the tape correctly with the tape arrow pointing toward the drive as seen in Figure 11-1. Once the tape drive is running (the tape drive light is lit), you cannot eject the tape.

Figure 11-1
Inserting a cassette into the 600-Mbyte tape drive of a Meridian MAX 7 SNN or IPE system



Note: A 155-Mbyte tape can be used with the 600-Mbyte tape drive but is read only.

Figure 11-2
Inserting a cassette tape into the 155-Mbyte tape drive on a Meridian MAX 7 IPE system



Note: If the tape is inserted incorrectly into the 155-Mbyte tape drive, the tape light flashes. If this situation occurs, remove the tape and insert it with the arrow pointing toward the tape drive, as seen in Figure 11-2.

ATTENTION

When entering a number in response to a prompt, use the upper row of keys (numbers) rather than the numeric keypad. If you want to use the numeric keypad, ensure that the keyboard indicator "NUM LOCK" is on. Otherwise, unpredictable results may occur.

Chapter 12: New software installations

Only the Meridian MAX 7 SNN and Meridian MAX - IPE 7 systems have software procedures for entirely new systems. Two types of new software installation procedures exist for both SNN and IPE: customer-installed and factory-installed.

To distinguish factory-installed software from customer-installed software, power up the Meridian MAX 7 module. If the console login prompt appears, then the system has factory-installed software. If the system does not boot up, it has customer-installed software.

Table 12-1 lists the software installation procedures for new software installations for Meridian MAX 7 SNN and IPE. Refer to Table 1-1 in the "Introduction" chapter for the meanings of the system acronyms.

Table 12-1
Meridian MAX 7 new software installation procedures

Description of software installation procedures	Procedure #
Meridian MAX 7 SNN: customer-installed software	12-1
Meridian MAX 7 SNN: factory-installed software	12-2
Meridian MAX - IPE 7: customer-installed software	12-3
Meridian MAX - IPE 7: factory-installed software	12-4

Meridian MAX 7 SNN new installation

Perform a Meridian MAX 7 SNN new installation if your company has never used a Meridian MAX product, nor an ACD product. Refer to Table 1-1 in the "Introduction" chapter for Meridian MAX 7 SNN system hardware information.

Follow Procedure 12-1 if your system has customer-installed software. Use Procedure 12-2 if your system has factory-installed software.

Customer-installed software

To perform the following procedure, you need the Meridian MAX 7 Application tape and the Generic Operating System tape.

Procedure 12-1
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
1	Before beginning the software installation, ensure that the MVME167-34 card has been configured correctly. Refer to the "Hardware installation: Application Module" chapter.
2	Make sure the power is turned off.
3	Insert the Meridian MAX 7 Operating System tape.

4	Power up the module. The power switch is located on the left-hand side of the AEM module. The upper switch controls the power for the module in the left side of the Meridian 1, while the lower switch controls the power for the module in the right side.
	
	The system displays the copyright and hardware configuration information. The messages below may differ from your system messages.
	
	`Copyright Motorola Inc. 1988 - 1993, All Rights Reserved.`
	`MVME167 Debugger/Diagnostics Release Version 1.1 - 01/11/93`
	`COLD Start`
	
	`Local Memory Found =02000000 (&33554432)`
	
	`MPU Clock Speed =33Mhz`
	
	`Autoboot in progress... To abort hit <BREAK>`

5	Press **{BREAK}** to stop the hard disk load and begin the tape load.
	
	Note: {F5} on the VT520 and VT420 is equivalent to the {BREAK} key.
	
	`--Break Detected--`
	`167-Bug>`

—continued—

Procedure 12-1 (continued)
New Installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

6	Wait for the tape to rewind. The tape drive light turns off when the tape is rewound.
	
	At the previous prompt, enter **bo 0,40** followed by **{RETURN}**.
	
	`Booting from: VME167, Controller 0, Drive 40`
	`Loading: Operating System`
	`Volume: V/68`
	`IPL loaded at: $001F0000`
	`MVMETAPE IPL Version 1.0`
	
	There is a one to two minute delay before the system continues with the following:
	
	`**********`
	`System V/68 Release R3V7 M68040 Version 920526`
	`Real mem = 31457280`
	`Avail mem = 29900800`
	`Buffers = 60`
	`**********`
	`Copyright (c) 1984-1992 Motorola Inc. All rights reserved.`
	`INIT: SINGLE USER MODE`
	`***`
	`erase = #  kill = @  intr = DEL  quit = ^\`
	`***`
	
	Note: The previous message indicates that pressing the key that backspaces and deletes one character causes a system interruption which terminates the current process. The **{#}** key deletes and backspaces one character. If you press the delete/backspace key accidentally, press **{CONTROL}{D}** to reset the system.

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
	167 SCSI configuration Device Addr Vers Revision Serial# Blocks Size Vendor Description ------ ---- ---- -------- ------- ------- ---- ---------- Disk 00 0002 8770... ..... 2054325 0512 SEAGATE ST11200N Tape 40 0001 RV J... ..... 0000000 0000 TEAC MT-2ST/F50B This configuration is an example. Your system messages may differ. Enter the correct date and time EST [mmddhhmmyy]:
7	Enter the correct date and time, followed by **{RETURN}**. The first pair of numbers represent the month, the second pair of numbers represent the day, the third pair of numbers represent the hour in the 24-hour time cycle, the fourth pair of numbers represent the minutes, and the last pair of numbers represent the last two digits of the year. For example, if 0512122193 is entered, the system asks you the following question. Is the date Wed May 12 12:21:00 1993 EST correct? (y or n)
8	If the date and/or time you entered is incorrect, enter **n**, followed by **{RETURN}**. The system then returns you to Step 7. If the date and time you entered are correct, enter **y**, followed by **{RETURN}**. The system continues. ***> From this point on, many system messages will be timestamped (TIME) *** New character settings: erase = DEL kill = ^u intr = ~ quit = ^x *** ***Note:*** The previous message indicates that pressing the **{~}** key causes a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

9	The system prompts you to enter your 20-character alphanumeric keycode followed by your SL-1 serial number. These characters are represented by the pound key (#) followed by **{RETURN}**.
	
	`Please enter the first four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the next four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the next four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the next four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the last four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the SL-1 serial number that corresponds to this keycode,`
	`or 'q' to quit: ######`

10	If the system is unable to decrypt the keycode, you are prompted to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure and prompts you to contact your Nortel service representative.
	
	If the keycode is decrypted successfully, the system continues with the following:
	
	`The following options were encoded in the keycode that you entered.`
	`Please verify that the options are correct:`
	
	`Option  Setting`
	`------  -------`
	
	`Serial Number : #####`
	`Platform : SNN`
	`Number of Ports : 40`
	`Max. Position IDs : 1200`
	`LAN Supervisor Sessions : 60`
	`Configuration Control [CC]: ENABLED`

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
	Formula Definition [FD]: ENABLED NAC Connectivity [NAC]: ENABLED MSL-1 NACD MIS [NACD]: ENABLED CCR/EAR MIS [CCR]: ENABLED Datastream Reporting [DSR]: ENABLED M1 Terminal Emulator [MTE]: ENABLED Multiple Queue Assgn. [MQA]: ENABLED MAX Status Interface [MSI]: DISABLED This configuration is an example. Your system options may differ. Note that for an SNN system, 59 LAN supervisor sessions are supported as well as one direct connection.
11	Are the options correct? (y/n) The system then prompts you to confirm your system configuration. If the options are incorrect, enter **n**. The system prompts you to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure. Contact your Nortel service representative. If the system configuration is correct, enter **y**.

—continued—

Procedure 12-1 (continued)
New Installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

12	The system displays the hardware configuration. The following configuration is only an example. Your system configuration may differ.
	
	`MAX has detected that you are running the following hardware configuration:`
	
	`System : Meridian MAX 7 SNN`
	`CPU : 167 Card`
	`Memory : 32 MB`
	`Hard Disk : 1.2 GB (Seagate ST11200N)`
	`Tape Drive : 600 MB (Teac MT-2ST/F50B)`
	
	`If this configuration does not match your configuration, or if this configuration is not the configuration ordered, please type "n" to the following question. The installation will abort. Please call your service representative for further assistance.`
	
	`---> Do you wish to install the hardware configuration specified above (y/n) ?`

13	If you want to abort the installation, enter **n**, followed by **{RETURN}**. If you want to install the hardware configuration, enter **y**, followed by **{RETURN}**.

14	The system then displays the Meridian MAX Software Installation Menu. Since this procedure is a new installation, enter **1**, followed by **{RETURN}**.
	
	`The Meridian MAX Software Installation Menu`
	`----------`
	`1 New Installation`
	`2 Installation Upgrade`
	`3 Application Upgrade`
	
	`---> Enter a number to select the type of installation/upgrade desired, or enter q to quit :`

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

15	The system continues.
	
	`Will perform a New Installation.`
	`---> Do you wish to restart a previously-aborted installation (y/n)?`

16	If you do not want to restart a previously aborted installation, enter **n**, followed by **{RETURN}**. Go to Step 18. If you want to restart a previously aborted installation, enter **y**, followed by **{RETURN}**. The system continues.
	
	`***> Determining whether the installation can be re-started...`
	
	The system then displays a menu.
	
	Note: Only those reentry points that have been verified by your system are shown in the Meridian MAX Installation/Upgrade Restart Menu.
	
	`The Meridian MAX Installation/Upgrade Restart Menu`
	`----------`
	`Restart Meridian MAX Installation/Upgrade from one of the following stages:`
	
	`1 From the Beginning`
	`2 Just Before Copying OS Files to Hard Disk`
	`3 Just Before Copying MAX Application Files to Hard Disk`
	`4 Just Before Booting From Hard Disk`
	
	`--> Enter a number to select the point from which to install, or enter q to quit:`

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

17	If you want to quit, enter **q**, followed by **{RETURN}**. The system returns you to the Meridian MAX Software Installation Menu, where you can restart the installation.
	
	If you want to restart the installation from the beginning, enter **1**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade from the beginning.`
	
	If you want to restart the installation just before the OS files are copied to the hard disk, enter **2**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the OS files are about to be copied to the hard drive.`
	
	If you want to restart the installation just before the Meridian MAX application files are copied to the hard disk, enter **3**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the application files are about to be copied to the hard drive.`
	
	If you want to restart the installation just before the Meridian MAX system boots from the hard disk, enter **4**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the system is about to be booted from the hard disk for the first time.`

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

18	The system continues.
	
	`---> Will the MAX system be in Agent-ID mode or Position-ID mode?`
	`(MAX must be in the same mode as the Meridian 1/SL-1.)`
	
	`Please enter either 'a' or 'p' :`
	
	If your Meridian MAX system is in Agent-ID mode or has Multiple Queue Assignment (MQA) enabled, enter **a**, followed by **{RETURN}**. If the system is in Position-ID mode, enter **p**, followed by **{RETURN}**.
	
	Note: If your Meridian MAX has MQA enabled, ensure that your Meridian 1 is also in Agent-ID mode.
	
	The system continues with the following prompt.
	
	`Please verify that the Meridian 1/SL-1 is in the same mode as MAX.`
	
	`Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?`
	
	(where XXXXX is either Agent or Position, depending upon which you entered at the beginning of Step 18.)

19	If the Meridian 1 is in the same mode as the Meridian MAX system, enter **y**, followed by **{RETURN}**.
	
	`WARNING: Meridian MAX installation/upgrade requires overwriting`
	`the hard disk. This means that FILES AND DATA ON THE`
	`DISK WILL BE DESTROYED.`
	
	`---> Do you wish to begin Meridian MAX installation (y, n, q, ?) [q]:`

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

20	If you want to begin the installation, enter **y**, followed by **{RETURN}**. The system continues.
	
	`***> Beginning installation/upgrade (TIME)`
	
	`***> Checking tape in drive... (TIME)`
	
	If you chose not to restart a previously aborted installation or chose reentry point 1 in Step 17 (to restart the installation from the beginning), go to Step 21.
	
	If you chose reentry point 2 in Step 17 (to restart the installation just before copying the OS files to the hard disk), go to Step 22.
	
	If you chose reentry point 3 in Step 17 (to restart the installation just before copying the application files to the hard disk) the system displays the following messages.
	
	`***> Mounting root file system as /root (TIME)`
	
	`***> Mounting the usr file system as /root/usr (TIME)`
	
	`***> Installing MAX-specific configuration files (TIME)`
	
	`***> Setting permissions on installation disk's root directory (TIME)`
	
	Go to Step 23.

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

	If you chose reentry point 4 in Step 17 (to restart the installation just before booting from the hard disk for the first time), the system displays the following messages.
	
	`***> Mounting root file system as /root (TIME)`
	
	`***> Mounting the usr file system as /root/usr (TIME)`
	
	`The system has been reset to perform the installation again, starting from the first boot from the hard disk.`
	
	`Please perform the following steps:`
	
	`1. Remove the tape from the tape drive.`
	
	`2. Turn off the power for the module.`
	
	`3. Wait 20 seconds for the power to reset.`
	
	`4. Turn on the power for the module.`
	
	`**********`
	
	`Please reboot the system now.`
	
	`**********`
	
	Go to Step 27.

21	`**********`
	`*  *`
	`*  Stage 1 - Formatting Hard Drive and Creating Filesystems  *`
	`*  *`
	`**********`

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
	***> Formatting root file system's disk drive (TIME) This will take about 30 minutes...
	***> Writing slice table to /dev/rdsk/m167_00s7 (TIME)
	***> Creating the root file system (TIME)
	***> Labeling the root file system (TIME)
	***> Creating the swap file system (TIME)
	***> Labeling the swap file system (TIME)
	***> Creating the usr file system (TIME)
	***> Labeling the usr file system (TIME)
	***> Installing boot-loader on root file system's disk drive (TIME)
22	**********
	* *
	* Stage 2 – Copying OS Files to Hard Disk *
	* *
	**********
	***> Mounting root file system as /root (TIME)
	***> Making the /tmp directory (TIME)
	***> Making the /usr directory (TIME)
	***> Mounting usr file system as /root/usr (TIME)
	***> Copying files; this will take from 10 to 20 minutes depending upon your system configuration... (TIME)
	***> Making the root file system lost+found directory (TIME)
	Reserving 224 entries
	***> Making the usr file system lost+found directory (TIME)

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
	Reserving 1312 entries
	***> Installing /etc/badtracks/m167_00 bad spot list (TIME)
	***> Creating sysadm(1M) package information file (TIME)
	***> Setting up the new operating system (TIME)
	***> Creating root and usr file system associated device nodes (TIME)
	***> Installing MAX-specific configuration files (TIME)
	***> Setting permissions on installation disk's root directory (TIME)
23	**********
	* *
	* Stage 3 – Copying MAX Application Files to Hard Disk *
	* *
	**********
	Please remove the OS tape from the tape drive and put in the Meridian MAX Application tape.
24	Remove the OS tape from the tape drive and insert the application tape. Wait for the tape to rewind. The tape drive light turns off when the tape is rewound.
	Did you insert the application tape in the tape drive (y/n) ?
25	If you followed the instructions given in Step 24 and the tape drive light is off, enter **y**, followed by **{RETURN}**. The system continues.
	***> Checking tape in drive... (TIME)
	***> Copying files; this will take from 10 to 20 minutes depending upon your system configuration... (TIME)

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
26	** * * * Stage 4 – Preparing to Reboot from Hard Disk * * * ** ***> Unmounting all mounted file systems (TIME) ***> Synchronizing the installation disk (TIME) ** The Meridian MAX product has been installed on the hard disk. You may now remove the tape from the tape drive. * * * You must REBOOT the system and allow it to autoboot from the hard * * disk. Please power off the system now. * * * * Please allow 20 seconds between turning the power off and on again* * to allow the power to reset. * * * ********** **** REBOOT THE SYSTEM **** **********

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

27	After you turn off the power for the module, wait 20 seconds, and turn the power on again. The system automatically reboots. The messages below may differ from your system messages.
	
	`Copyright Motorola Inc. 1988 - 1993, All Rights Reserved`
	
	`MVME167 Debugger/Diagnostics Release Version 1.1 - 01/11/93`
	`COLD START`
	
	`Local Memory Found =02000000 (&33554432)`
	
	`MPU Clock Speed =33Mhz`
	
	`Autoboot in progress... To abort hit <BREAK>`
	`Booting from: VME167, Controller 0, Drive 0`
	`Loading: Operating System`
	
	`Volume: $00000000`
	
	`IPL loaded at: $001F0000`
	`VME Disk IPL Version 52.2`
	`***`
	`erase = DEL  kill = ^u  intr = ^c  quit = ^x`
	`***`
	Note: The previous message indicates that the keys **{CONTROL} {C}** pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------ -----------
Disk     00  0002 8770...   .......   2054325 0512 SEAGATE ST11200N
Tape     40  0001 RV J...   .......   0000000 0000 TEAC    MT-2ST/F50B
```

This configuration is an example. Your system messages may differ.

```
Enter <CR> to pause in a single user shell before init.
Default boot sequence continuing...
The system is coming up. Please wait.
Node name set to MAX00
mount -f S51K /dev/usr /usr
Checking for system dump...
Expreserve notification performed.
Downloading MVME332XT Line Disciplines.
Error logging started.
OSM Logging Started.

***> Configuring port devices... (TIME)
***> Finished configuring port devices. (TIME)
port_hold started.
Transport Provider daemon started.
Internet services provided.
```

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
	portmap started. Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started. Module ID = MAX00 MAX Configuration = 1 Module(s) ***> Setting up directories and file permissions... (TIME) ***> Creating the SYSTEM database – please wait... (TIME) SYSTEM database created. Loading MAX 7 system data files... Loading data files for training mode... Data files loaded

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response

28	The system displays the language options installed on your system. The language options listed below are provided as an example only. Your system language options may differ.
	
	`Your current language options are:`
	`Default: English`
	`Secondary: French`
	`Would you like to change your secondary language (y/n)?`

29	If the language options displayed by the system are correct and you do not want to change them, enter **n**, followed by **{RETURN}.** Go to Step 33. If the language options displayed by the system are not correct and you want to change them, enter **y**, followed by **{RETURN}.**

30	The system displays the available system secondary language options. For example:
	
	`Available system secondary language options:`
	`1. French`
	`2. Spanish`
	`3. German`
	`4. Japanese`
	`Please select the MAX secondary language by entering its number:`
	
	Changing the secondary language only affects the Meridian MAX supervisor screens. All installation screens as well as all maintenance and administration screens remain in English.

31	Enter the number associated with the secondary language option you want to install, followed by **{RETURN}**. The system then displays the current system language options and the following message. `Are the language options correct (y/n)?`

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
32	If the language options displayed are not correct and you want to change them, enter **n**, followed by **{RETURN}**. Go to Step 30. If the language options displayed are correct, enter **y**, followed by **{RETURN}.**

33	`***> Creating USER LANGUAGE database – please wait... (TIME)`
	`USER LANGUAGE database created.`
	`Which customer number would you like this MAX site to use?`

34	Enter the number between 0 and 99 (inclusive) that corresponds to the customer number assigned to your Meridian 1 switch, followed by **{RETURN}**. `Customer number changed to ##` (Where ## is the customer number you entered.)
35	The system displays the Meridian MAX Hardware and System Parameters screen. Refer to Procedure 10-1 in the "Meridian MAX system configuration" chapter for instructions on how to assign your system ports and Meridian MAX system parameters.

36	When you have completed the system capacity configuration screens, the system continues with the installation.
	
	`DATA database update starts.`
	`Creating the MAX 7 Database for training mode`
	`This process takes approximately 5 minutes to execute.`
	`Creating a new database (TIME)`
	`End of DATA database update.`
	
	`Loading data files for training mode....`
	`Database loaded.`

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
	Setting the time to Thu Jun 22 12:00 1989 for Training mode. Loading System Language Strings... Loading System Language Strings completed. Starting MAX OSM Logger, Please Wait... OSM Logging Stopped. MAX OSM Logging Started. Meridian MAX release 07.xx Meridian MAX Training Mode Please login as precut for more details. The system is ready. Console Login:

—continued—

Procedure 12-1 (continued)
New installation of the Meridian MAX 7 SNN: customer-installed software

Step	Installer's action and system's response
37	Before logging in, ensure that the installation was successful. Review the Meridian MAX error log for any fatal messages. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, "View MAX Error Log" subsection, for more information.
38	Ensure that the correct system options were enabled. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Options Display" subsection, for more information.
39	If the system was installed correctly, go to Step 40. If the system was not installed correctly, you must reinstall it. Ensure no errors occurred within the steps you want to skip. If you are unsure, restart the re-installation from the beginning. If the errors persist, contact your Nortel distributor.
40	Insert a new blank tape into the tape drive for daily backups. Ensure that the write-protect tab on the blank cartridge tape is set to write-enabled to allow the system to write information on the tape (refer to Figure 11-1). The importance of backups is explained in the "Software installation overview" chapter, "Backups" section.
41	Log in as **precut** to view the Meridian MAX Training Mode screen. Refer to the "Operating modes" chapter for the correct procedure to switch from Training mode to Precutover mode. Refer to the "Operating modes" chapter, "Switching from Training mode to Precutover mode" procedures for further instructions on how to transfer from Training mode to Precutover mode.

—end—

Factory-installed software

To perform the following procedure, you need the Meridian MAX 7 Application tape and the Generic Operating System tape.

Procedure 12-2
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response
1	Before beginning the software installation, ensure that the MVME167-34 card has been configured correctly. Refer to the "Hardware installation: Application Module" chapter.

2	Power up the module. The power switch is located on the left-hand side of the AEM module. The upper switch controls the power for the application module in the left side of the AEM, while the lower switch controls the power for the module in the right side.
	
	The system displays the copyright and hardware configuration information. The messages below may differ from your system messages.
	
	`Copyright Motorola Inc. 1988 - 1993, All Rights Reserved`
	`MVME167 Debugger/Diagnostic Release Version 1.1 - 01/11/93`
	`COLD START`
	
	`Local Memory Found =02000000 (&33554432)`

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response

```
MPU Clock Speed =33Mhz


Autoboot in progress... To abort hit <BREAK>
Booting from: VME167, Controller 0, Device 0
Loading: Operating System


Volume: $00000000


IPL loaded at: $001F0000
VME Disk IPL Version 52.2
***
 erase = DEL    kill = ^u  intr = ^c   quit = ^x
***
```

***Note*:** The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------------------

Disk     00  0002 8770...   .......   2054325 0512 SEAGATE ST11200N
Tape     40  0001 RV J...   .......   0000000 0000 TEAC MT-2ST/F50B
```

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response
	Enter <CR> to pause in a single user shell before init. Default boot sequence continuing... The system is coming up. Please wait. Node name set to MAX00. mount -f S51K /dev/usr /usr Checking for system dump... Expreserve notification performed. Oownloading MVME332XT Line Oisciplines. Error logging started. OSM Logging Started. MAX OSM Logging Started. Transport Provider daemon started. Internet services provided. portmap started. Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started.

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response
	Meridian MAX Release 07.xx Meridian MAX Training Mode. Please login as precut for more details. The system is ready. Console login:
3	Using the Maintenance console, log in as **maint**. The system will display the following: Password:
4	Enter the maintenance password.

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response
	The system displays the Maintenance and Administration Menu that appears while the system is active.

```
        Meridian MAX Maintenance and Administration

        View / Modify Meridian MAX Options

        Shutdown the System

        Backup Customer Data to Tape

        Diagnostics

        Password Change

        Configuration of Meridian MAX System

        Help

        Logout

Press v,s,b,d,p,c,h,or l and ENTER:
```

5	Enter **s**, followed by **{RETURN}**, to shut down the system.
	
	The screen goes blank for several seconds. Then the system asks you to confirm your choice:
	
	`Press y and ENTER to confirm system shutdown.`
	`(Just ENTER to quit)`

6	Enter **y**, followed by **{RETURN}**, to confirm the shutdown of the system.

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response
	The system displays the Meridian MAX Maintenance and Administration Menu that appears while the system is inactive.

```
                Meridian MAX Maintenance and Administration


                View / Modify Meridian MAX Options

                Restart & Power Down System Utilities

                Backup and Restore Utilities

                Diagnostics

                Password Change

                Configure Meridian MAX System

                Help

                Logout


Press v,r,b,d,p,c,h,or l and ENTER:
```

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response
7	Enter **v,** followed by **{RETURN}**, for the View/Modify Meridian MAX Options screen. Then enter **c,** followed by **{RETURN}**, to view the Meridian MAX options already selected for your site.
8	The system displays the Meridian MAX Options screen. This screen is a sample. Note that for an SNN system, 59 LAN supervisor sessions are supported as well as one direct connection.

```
                    Meridian MAX Options


Product Release              :07.0x        Software Version          :07.xx
Hardware Platform            :SNN          Database Version          :07.00
Meridian 1 Serial #          :12345        Customer Number           :0
Agent-IO mode                :NO
Number of Ports              :40
Max. Position IOs            :1200
LAN Supervisor Sessions      :60
Configuration Control [CC]   :ENABLED
Formula Definition [FO]      :ENABLED
NAC Connectivity [NAC]       :ENABLED
MSL-1 NACD MIS [NACD]        :ENABLED
CCR/EAR MIS [CCR]            :ENABLED
Datastream Reporting [DSR]   :ENABLED
M1 Terminal Emulator [MTE]   :ENABLED
Multiple Queue Assgn. [MQA]  :ENABLED
MAX Status Interface [MSI]   :DISABLED


                    Press ENTER to return to menu.
```

9	Compare the *Customer Number* field with the customer number you want your system to have. Press **{RETURN}** to return to the Maintenance and Administration menu.

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response
10	If the *Customer Number* field is correct, go to Step 17. If the *Customer Number* field is incorrect, enter **v**, followed by **{RETURN}**. The system then displays the View/Modify Meridian MAX Options screen: View / Modify Meridian MAX Options Current Options Display Keycode Options Update Modify Customer-Controlled Options Help Quit to the main menu Press c,k,m,h or q and ENTER:
11	Enter **m**, followed by **{RETURN}** for the Modify Customer-Controlled Options menu. The system displays the following screen:

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response

```
                Modify Customer-Controlled Options


                Agent-ID mode

                System Customer Number

                Combined Call Abandon Reporting Feature

                Help

                Quit to View / Modify MAX Options menu


Press a,s,c,h or q and ENTER:
```

12 Enter **c**, followed by **{RETURN}** to assign a new customer number for this Meridian MAX site.

```
The system customer number is #
```

(where # represents the current customer number)

```
Press y and ENTER to change the customer number
(Just ENTER to quit)
```

13 Enter **y**, followed by **{RETURN}**.

The system displays the following question.

```
Which customer number would you like this MAX site to use?
```

—continued—

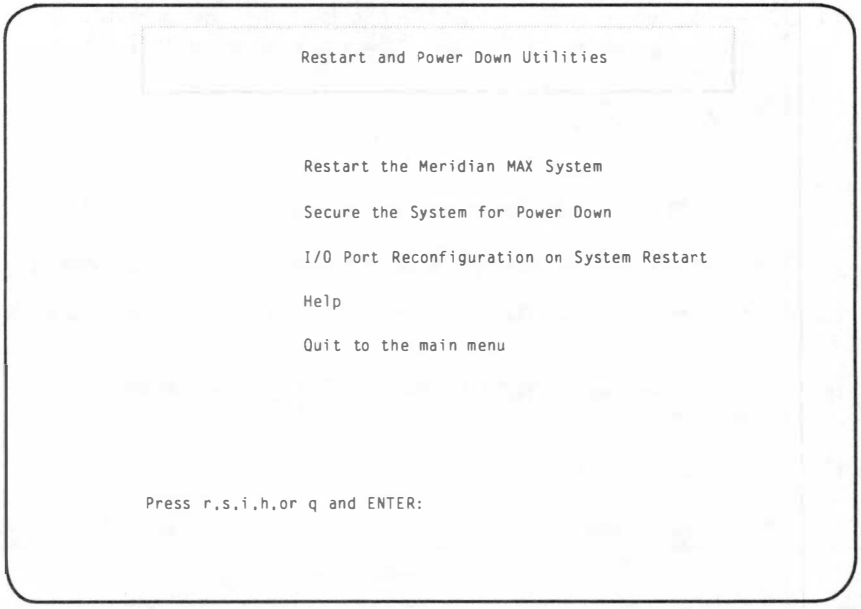
Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response
14	Enter the number between 0 and 99 (inclusive) that corresponds to the customer number assigned to your Meridian 1 switch, followed by **{RETURN}**. The system displays the following: `Customer number changed to ##` (Where ## is the customer number you entered.) The system then returns to the Modify Customer-Controlled Options screen.
15	Enter **q** and press **{RETURN}** to return to the View/Modify Meridian MAX Options screen.
16	Enter **q** and press **{RETURN}** to return to the Meridian MAX Maintenance and Administration menu.
17	Enter **r** and press **{RETURN}**. The system displays the Restart & Power Down System Utilities submenu.

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response



18 Enter **r**, followed by **{RETURN}**.

The system begins the Restart the Meridian MAX System utility.

```
Press y and ENTER to confirm system restart. (Just ENTER to quit)
```

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response

19	Enter **y**, followed by **{RETURN}**.
	
	The system displays the following message:
	
	`The operating system will shut down and restart, and then MAX will restart.`
	
	`Please wait for system to reboot.`
	
	The system displays a number of messages as it shuts down. After shutdown the system automatically reboots.
	
	`Console Login:`

20	Before logging in, ensure that the installation was successful. Review the Meridian MAX error log for any fatal messages. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, "View MAX Error Log" subsection for more information.
21	Ensure that the correct system options were enabled. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Options Display" subsection for more information.
22	If the system was installed correctly, go to Step 23. If the system was not installed correctly, you must reinstall it. Ensure no errors occurred within the steps you want to skip. If you are unsure, restart the re-installation from the beginning. If the errors persist, contact your Nortel distributor.
23	Insert a new blank tape into the tape drive for daily backup. Ensure that the write-protect tab on the blank cartridge tape is set to write enabled to allow the system to write information on the tape (refer to Figure 11-1). The importance of backups is explained in the "Software installation overview" chapter, "Backups" section.

—continued—

Procedure 12-2 (continued)
New installation of the Meridian MAX 7 SNN: factory-installed software

Step	Installer's action and system's response
24	Log in as **precut** to view the Meridian MAX Training Mode screen. Refer to the "Operating modes" chapter, "Switching from Training mode to Precutover mode" procedures for further instructions on how to transfer from Training mode to Precutover mode.

—end—

Meridian MAX - IPE 7 new installations

Perform a Meridian MAX - IPE 7 new installation if your company has never used a Meridian MAX product, nor an ACD product. Refer to Table 1-1 in the "Introduction" chapter for Meridian MAX - IPE 7 system hardware information.

Follow Procedure 12-3 if your system has customer-installed software. Use Procedure 12-4 if your system has factory-installed software.

Customer-installed software

To perform the following procedure, you need the Meridian MAX 7 Applications tape and the Generic Operating System tape.

Procedure 12-3
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response
1	Before beginning the software installation, ensure that the SMM167 card has been configured correctly. Refer to the "Hardware installation: Intelligent Peripheral Equipment module" chapter.
2	Make sure the power is turned off.
3	Insert the Meridian MAX 7 Operating System tape.

4	Power up the module. The power button is located above the tape drive.
	
	The system displays the copyright and hardware configuration information. The messages below may differ from your system messages.
	
	`Copyright Motorola Inc. 1988 - 1993, All Rights Reserved.`
	`M4120 Debugger/Diagnostics Release Version 1.1 - 01/11/93`
	`COLD Start`
	
	`Local Memory Found =01000000 (&16777216)`
	
	`MPU Clock Speed =25Mhz`
	
	`Autoboot in progress... To abort hit <BREAK>`

5	Press **{BREAK}** to stop the hard disk load and begin the tape load.
	
	Note: {F5} on the VT520 and VT420 is equivalent to the {BREAK} key.
	
	`--Break Detected--`
	`4120-Bug>`

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

6	Wait for the tape to rewind. The tape drive light turns off when the tape is rewound.
	
	At the previous prompt, enter **bo 0,40** followed by **{RETURN}**.
	
	`Booting from: M4120, Controller 0, Drive 40`
	`Loading: Operating System`
	`Volume: V/68`
	`IPL loaded at: $001F0000`
	`MVMETAPE IPL Version 1.0`
	
	There is a one to two minute delay before the system continues with the following:
	
	`**********`
	`System V/68 Release R3V7 M68040 Version 920526`
	`Real mem = 14680064`
	`Avail mem = 13271040`
	`Buffers = 60`
	`**********`
	`Copyright (c) 1984-1992 Motorola Inc. All rights reserved.`
	`INIT: SINGLE USER MODE`
	`***`
	`erase = # kill = @ intr = DEL quit = ^|`
	`***`
	
	Note: The previous message indicates that pressing the key that backspaces and deletes one character causes a system interruption which terminates the current process. The **{#}** key deletes and backspaces one character. If you press the delete/backspace key accidentally, press **{CONTROL}{D}** to reset the system.

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - iPE 7: customer-installed software

Step	Installer's action and system's response

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------ -----------
Disk    00   0001 M606...   .......   0352176 0512 FUJITSU  M2614S
Tape    40   0001 RV F...   .......   0000000 0000 TEAC      MT-2ST/N50
```

This configuration is an example. Your system messages may differ.

```
Enter the correct date and time EST [mmddhhmmyy]:
```

7 Enter the correct date and time, followed by **{RETURN}**. The first pair of numbers represent the month, the second pair of numbers represent the day, the third pair of numbers represent the hour in the 24-hour time cycle, the fourth pair of numbers represent the minutes, and the last pair of numbers represent the last two digits of the year. For example, if 0423101593 is entered, the system asks you the following question.

```
Is the date Fri Apr 23 10:15:00 1993 EST correct? (y or n)
```

8 If the date and/or time you entered is incorrect, enter **n**, followed by **{RETURN}**. The system then returns you to Step 7. If the date and time you entered are correct, enter **y**, followed by **{RETURN}**. The system continues.

```
***> From this point on, many system messages will be timestamped.
     (TIME)
***
New character settings: erase = DEL kill = ^u intr = ~ quit = ^x
***
```

Note: The previous message indicates that pressing the **{~}** key causes a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

9	The system prompts you to enter your 20-character alphanumeric keycode followed by your SL-1 serial number. These characters are represented by the pound key (#) followed by **{RETURN}**.
	
	`Please enter the first four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the next four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the next four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the next four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the last four characters of the keycode,`
	`or 'q' to quit: ####`
	
	`Please enter the SL-1 serial number that corresponds to this keycode,`
	`or 'q' to quit: #####`

10	If the system is unable to decrypt the keycode, you are prompted to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure and prompts you to contact your Nortel service representative.
	
	If the keycode is decrypted successfully, the system continues with the following:
	
	`The following options were encoded in the keycode that you entered.`
	`Please verify that the options are correct:`
	
	`Option  Setting`
	`------  -------`
	
	`Serial Number : #####`
	
	`Platform : IPE`
	
	`Number of Ports : 8`
	
	`Max. Position IDs : 200`
	
	`LAN Supervisor Sessions : 20`

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response
	Configuration Control [CC]: ENABLED Formula Definition [FD]: ENABLED NAC Connectivity [NAC]: ENABLED MSL-1 NACD MIS [NACD]: ENABLED CCR/EAR MIS [CCR]: ENABLED Datastream Reporting [DSR]: ENABLED M1 Terminal Emulator [MTE]: ENABLED Multiple Queue Assgn. [MQA]: ENABLED MAX Status Interface [MSI]: DISABLED This configuration is an example. Your system options may differ. Note that for an IPE system, 19 LAN supervisor sessions are supported as well as one direct connection.
11	Are the options correct? (y/n) The system then prompts you to confirm your system configuration. If the options are incorrect, enter **n**. The system prompts you to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure. Contact your Nortel service representative. If the system configuration is correct, enter **y**. The system continues.

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

12	The system displays the hardware configuration. The following configuration is only an example. Your system configuration may differ.
	
	`MAX has detected that you are running the following hardware configuration:`
	
	`System : Meridian MAX 7 IPE`
	`CPU : 167 Card`
	`Memory : 16 MB`
	`Hard Disk : 180 MB (Fujitsu M2614S)`
	`Tape Drive : 155 MB (Teac MT-2ST/N50)`
	
	`If this configuration does not match your configuration, or if this configuration is not the configuration ordered, please type "n" to the following question. The installation will abort. Please call your service representative for further assistance.`
	
	Note: The Fujitsu M2614 M2637S 240-Mbyte hard disk drive is formatted as a 180-Mbyte drive by Meridian MAX.
	
	`---> Do you wish to install the hardware configuration specified above (y/n) ?`

13	If you want to abort the installation, enter **n**, followed by **{RETURN}**. If you want to install the hardware configuration, enter **y**, followed by **{RETURN}**.

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

14	The system then displays the Meridian MAX Software Installation Menu. Since this procedure is a new installation, enter **1**, followed by **{RETURN}**.
	
	`The Meridian MAX Software Installation Menu`
	`-----------------------------------------`
	`1 New Installation`
	`2 Installation Upgrade`
	`3 Application Upgrade`
	`---> Enter a number to select the type of installation/upgrade desired, or enter q to quit :`

15	The system continues.
	
	`Will perform a New Installation.`
	`---> Do you wish to restart a previously-aborted installation (y/n)?`

16	If you do not want to restart a previously aborted installation, enter **n**, followed by **{RETURN}**. Go to Step 18. If you want to restart a previously aborted installation, enter **y**, followed by **{RETURN}**. The system continues. `***> Determining whether the installation can be re-started...`

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

	The system then displays a menu.
	
	Note: Only those reentry points that have been verified by your system are shown in the Meridian MAX Installation/Upgrade Restart Menu.
	
	`The Meridian MAX Installation/Upgrade Restart Menu`
	`----------`
	`Restart Meridian MAX Installation/Upgrade from one of the following stages:`
	
	`1 From the Beginning`
	`2 Just Before Copying OS Files to Hard Disk`
	`3 Just Before Copying MAX Application Files to Hard Disk`
	`4 Just Before Booting From Hard Disk`
	
	`--> Enter a number to select the point from which to install, or enter q to quit:`

17	If you want to quit, enter **q**, followed by **{RETURN}**. The system returns you to the MAX Software Installation Menu, where you can restart the installation.
	
	If you want to restart the installation from the beginning, enter **1**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade from the beginning.`
	
	If you want to restart the installation just before the OS files are copied to the hard disk, enter **2**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the OS files are about to be copied to the hard drive.`

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

	If you want to restart the installation just before the Meridian MAX application files are copied to the hard disk, enter **3**, followed by **{RETURN}.** The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the application files are about to be copied to the hard drive.`
	
	If you want to restart the installation just before the Meridian MAX system boots from the hard disk, enter **4**, followed by **{RETURN}.** The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the system is about to be booted from the hard disk for the first time.`

18	The system continues.
	
	`---> Will the MAX system be in Agent-ID mode or Position-ID mode? (MAX must be in the same mode as the Meridian 1/SL-1.)`
	
	`Please enter either 'a' or 'p' :`
	
	If your Meridian MAX system is in Agent-ID mode or has Multiple Queue Assignment (MQA) enabled, enter **a**, followed by **{RETURN}**. If the system is in Position-ID mode, enter **p**, followed by **{RETURN}**.
	
	Note: If your Meridian MAX has MQA enabled, ensure that your Meridian 1 is also in Agent-ID mode.
	
	The system continues with the following prompt.
	
	`Please verify that the Meridian 1/SL-1 is in the same mode as MAX.`
	
	`Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?`
	
	(where XXXXX is either Agent or Position, depending upon which you entered at the beginning of Step 18.)

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

19	If the Meridian 1 is in the same mode as the Meridian MAX system, enter **y**, followed by **{RETURN}**.
	
	`WARNING: Meridian MAX installation/upgrade requires overwriting the hard disk. This means that FILES AND DATA ON THE DISK WILL BE DESTROYED.`
	
	`---> Do you wish to begin Meridian MAX installation (y, n, q, ?) [q]:`

20	If you want to begin the installation, enter **y**, followed by **{RETURN}**. The system continues.
	
	`***> Beginning installation/upgrade (TIME)`
	
	`***> Checking tape in drive... (TIME)`
	
	If you chose not to restart a previously aborted installation or chose reentry point 1 in Step 17 (to restart the installation from the beginning), go to Step 21.
	
	If you chose reentry point 2 in Step 17 (to restart the installation just before copying the OS files to the hard disk), go to Step 22.
	
	If you chose reentry point 3 in Step 17 (to restart the installation just before copying the application files to the hard disk) the system displays the following messages.
	
	`***> Mounting root file system as /root (TIME)`
	
	`***> Mounting the usr file system as /root/usr (TIME)`
	
	`***> Installing MAX-specific configuration files (TIME)`
	
	`***> Setting permissions on installation disk's root directory (TIME)`
	
	Go to Step 23.

—continued—

Procedure 12-3 (continued)
New Installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

	If you chose reentry point 4 in Step 17 (to restart the installation just before booting from the hard disk for the first time), the system displays the following messages.
	
	`***> Mounting root file system as /root (TIME)`
	
	`***> Mounting the usr file system as /root/usr (TIME)`
	
	`The system has been reset to perform the installation again, starting from the first boot from the hard disk.`
	
	`Please perform the following steps:`
	
	`1. Remove the tape from the tape drive.`
	
	`2. Turn off the power for the module.`
	
	`3. Wait 20 seconds for the power to reset.`
	
	`4. Turn on the power for the module.`
	
	`**********`
	
	`Please reboot the system now.`
	
	`**********`
	
	Go to Step 27.

21	`**********`
	
	`*`
	
	`* Stage 1 - Formatting Hard Drive and Creating Filesystems *`
	
	`*`
	
	`**********`

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response
	***> Formatting root file system's disk drive (TIME) This will take from 10 to 20 minutes... ***> Writing slice table to /dev/rdsk/m167_00s7 (TIME) ***> Creating the root file system (TIME) ***> Labeling the root file system (TIME) ***> Creating the swap file system (TIME) ***> Labeling the swap file system (TIME) ***> Creating the usr file system (TIME) ***> Labeling the usr file system (TIME) ***> Installing boot-loader on root file system's disk drive (TIME)
22	** * * * Stage 2 – Copying OS Files to Hard Disk * * * ** ***> Mounting root file system as /root (TIME) ***> Making the /tmp directory (TIME) ***> Making the /usr directory (TIME) ***> Mounting usr file system as /root/usr (TIME) ***> Copying files; this will take from 10 to 20 minutes depending upon your system configuration... (TIME) ***> Making the root file system lost+found directory (TIME)

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response
	Reserving 128 entries ***> Making the usr file system lost+found directory (TIME) Reserving 704 entries ***> Installing /etc/badtracks/m167_00 bad spot list (TIME) ***> Creating sysadm(1M) package information file (TIME) ***> Setting up the new operating system (TIME) ***> Creating root and usr file system associated device nodes (TIME) ***> Installing MAX-specific configuration files (TIME) ***> Setting permissions on installation disk's root directory (TIME)
23	** * * * Stage 3 – Copying MAX Application Files to Hard Disk * * * ** Please remove the OS tape from the tape drive and put in the Meridian MAX Application tape.
24	Remove the OS tape from the tape drive and insert the application tape. Wait for the tape to rewind. The tape drive light turns off when the tape is rewound. Did you insert the application tape in the tape drive (y/n) ?

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

25	If you followed the instructions given in Step 24 and the tape drive light is off, enter **y**, followed by **{RETURN}**.
	
	The system continues.
	
	`***> Checking tape in drive... (TIME)`
	
	`***> Copying files; this will take from 10 to 20 minutes, depending upon your system configuration... (TIME)`

26	`**********************************************************************`
	`*                                                                    *`
	`*  Stage 4 - Preparing to Reboot from Hard Disk                          *`
	`*                                                                    *`
	`**********************************************************************`
	
	`***> Unmounting all mounted file systems (TIME)`
	
	`***> Synchronizing the installation disk (TIME)`

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response
	``` ** The Meridian MAX product has been installed on the hard disk. You may now remove the tape from the tape drive. * * You must REBOOT the system and allow it to autoboot from the hard * * disk. Please power off the system now. * * * Please allow 20 seconds between turning the power off and on again* * to allow the power to reset. * * ********** **** REBOOT THE SYSTEM **** ********** ```
27	After you turn off the power for the module, wait 20 seconds, and turn the power on again. The system automatically reboots. The messages below may differ from your system messages. ``` Copyright Motorola Inc. 1988 - 1993. All Rights Reserved M4120 Debugger/Diagnostics Release Version 1.1 - 01/11/93 COLD START Local Memory Found =01000000 (&16777216) MPU Clock Speed =25Mhz ```

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

```
Autoboot in progress... To abort hit <BREAK>
Booting from: M4120, Controller 0, Drive 0
Loading: Operating System


Volume: $00000000


IPL loaded at: $001F0000
VME Disk IPL Version 52.2
***
erase = DEL  kill = ^u  intr = ^c  quit = ^x
***
```

Note: The previous message indicates that the keys **{CONTROL} {C}** pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------ -----------
Disk    00   0001 M606...   .......   0352176 0512 FUJITSU  M2614S
Tape    40   0001 RV F...   .......   0000000 0000 TEAC      MT-2ST/N50
```

This configuration is an example. Your system messages may differ.

```
Enter <CR> to pause in a single user shell before init.
```

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response
	Default boot sequence continuing... The system is coming up. Please wait. Node name set to MAX00 mount -f S51K /dev/usr /usr Checking for system dump... Expreserve notification performed. Error logging started. OSM Logging Started. ***> Configuring port devices... (TIME) ***> Finished configuring port devices. (TIME) port_hold started. Transport Provider daemon started. Internet services provided. portmap started. Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started.

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response
	Module ID = MAX00 MAX Configuration = 1 Module(s) ***> Setting up directories and file permissions... (TIME) ***> Creating the SYSTEM database — please wait... (TIME) SYSTEM database created. Loading MAX 7 system data files... Loading data files for training mode... Data files loaded
28	The system displays the language options installed on your system. The language options listed below are provided as an example only. Your system language options may differ. Your current language options are: Default: English Secondary: French Would you like to change your secondary language (y/n)?
29	If the language options displayed by the system are correct and you do not want to change them, enter **n**, followed by **{RETURN}.** Go to Step 33. If the language options displayed by the system are not correct and you want to change them, enter **y**, followed by **{RETURN}.**

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response

30	The system displays the available system secondary language options. For example:
	
	`Available system secondary language options:`
	
	`1. French`
	`2. Spanish`
	`3. German`
	`4. Japanese`
	
	`Please select the MAX secondary language by entering its number:`

31	Enter the number associated with the secondary language option you want to install, followed by **{RETURN}**. The system then displays the current system language options and the following message. `Are the language options correct (y/n)?`
32	If the language options displayed are not correct and you want to change them, enter **n**, followed by **{RETURN}**. Go to Step 30. If the language options displayed are correct, enter **y**, followed by **{RETURN}.**

33	`***> Creating USER LANGUAGE database - please wait... (TIME)`
	
	`USER LANGUAGE database created.`
	
	`Which customer number would you like this MAX site to use?`

34	Enter the number between 0 and 99 (inclusive) that corresponds to the customer number assigned to your Meridian 1 switch, followed by **{RETURN}**. `Customer number changed to ##` (Where ## is the customer number you entered.)

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response
35	The system displays the Meridian MAX Hardware and System Parameters screen. Refer to Procedure 10-1 in the "Meridian MAX system configuration" chapter for instructions on how to assign your system ports and Meridian MAX system parameters.
36	When you have completed the system capacity configuration screens, the system continues with the installation. OATA database update starts. Creating the MAX 7 Oatabase for training mode This process will take approximately 5 minutes to execute. Creating a new database. (TIME) End of OATA database update. Loading data files for training mode.... Oatabase loaded. Setting the time to Thu Jun 22 12:00 1989 for Training mode. Loading System Language Strings... Loading System Language Strings completed. Starting MAX OSM Logger, Please Wait... OSM Logging Stopped. MAX OSM Logging Started. Meridian MAX release 07.xx

—continued—

Procedure 12-3 (continued)
New installation of the Meridian MAX - IPE 7: customer-installed software

Step	Installer's action and system's response
	Meridian MAX Training Mode Please login as precut for more details The system is ready. Console Login:
37	Before logging in, ensure that the installation was successful. Review the Meridian MAX error log for any fatal messages. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, "View MAX Error Log" subsection for more information.
38	Ensure that the correct system options were enabled. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Options Display" subsection for more information.
39	If the system was installed correctly, go to Step 40. If the system was not installed correctly, you must reinstall it. Ensure no errors occurred within the steps you want to skip. If you are unsure, restart the re-installation from the beginning. If the errors persist, contact your Nortel distributor.
40	Insert a new blank tape into the tape drive for daily backups. Ensure that the write-protect tab on the blank cartridge tape is set to write-enabled to allow the system to write information on the tape (refer to Figure 11-2). The importance of backups is explained in the "Software installation overview" chapter, "Backups" section.
41	Log in as **precut** to view the Meridian MAX Training Mode menu. Refer to the "Operating modes" chapter, "Switching from Training mode to Precut-over mode" procedures for further instructions on how to transfer from Training mode to Precutover mode.

—end—

Factory-installed software

To perform the following procedure, you need the Meridian MAX 7 Applications tape and the Generic Operating System tape.

Procedure 12-4
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response
1	Before beginning the software installation, ensure that the SMM167 card has been configured correctly. Refer to the "Hardware installation: Application Module" chapter.

2	Power up the module. The power button is located above the tape drive.
	
	The system displays the copyright and hardware configuration information. The messages below may differ from your system messages.
	
	`Copyright Motorola Inc. 1988 - 1993, All Rights Reserved`
	`MVME167 Debugger/Diagnostic Release Version 1.1 - 01/11/93`
	`COLD START`
	
	`Local Memory Found =01000000 (&16777216)`
	
	`MPU Clock Speed =25Mhz`
	
	`Autoboot in progress... To abort hit <BREAK>`
	`Booting from: M4120, Controller 0, Device 0`
	`Loading: Operating System`
	
	`Volume: $00000000`
	
	`IPL loaded at: $001F0000`
	`VME Disk IPL Version 52.2`

—continued—

Procedure 12-4 (continued)
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response

```
***
 erase = DEL    kill = ^u  intr = ^c    quit = ^x
***
```

Note: The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------ -----------
Disk     00  0001 M606...   .......   0352176 0512 FUJITSU   M2614S
Tape     40  0001 RV F...   .......   0000000 0000 TEAC      MT-2ST/N50
```

This configuration is an example. Your system messages may differ.

```
Enter <CR> to pause in a single user shell before init.


Default boot sequence continuing...
The system is coming up. Please wait.
Node name set to MAX00.
mount -f S51K /dev/usr /usr
Checking for system dump...
Expreserve notification performed.
Error logging started.
OSM Logging Started.
MAX OSM Logging Started.
```

—continued—

Procedure 12-4 (continued)
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response
	Transport Provider daemon started. Internet services provided. portmap started. Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started. Meridian MAX Release 07.xx Meridian MAX Precut Mode. Please login as precut for more details. The system is ready. Console login:
3	Using the Maintenance console, log in as **maint**. The system will display the following: Password:
4	Enter the maintenance password. The system displays the Maintenance and Administration Menu that appears while the system is active.

—continued—

Procedure 12-4 (continued)
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response

```
                Meridian MAX Maintenance and Administration

                View / Modify Meridian MAX Options

                Shutdown the System

                Backup Customer Data to Tape

                Diagnostics

                Password Change

                Configuration of Meridian MAX System

                Alter / View Meridian MAX - IPE Module Information

                Help

                Logout


        Press v,s,b,d,p,c,h,or l and ENTER:
```

5 Enter **s**, followed by **{RETURN}**, to shut down the system.

The screen goes blank for several seconds. Then the system asks you to confirm your choice:

```
Press y and ENTER to confirm system shutdown.
(Just ENTER to quit)
```

6 Enter **y**, followed by **{RETURN}**, to confirm the shutdown of the system.

The system displays the Meridian MAX Maintenance and Administration Menu that appears while the system is inactive.

—continued—

Procedure 12-4 (continued)
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response

```
                Meridian MAX Maintenance and Administration


                View / Modify Meridian MAX Options

                Restart & Power Down System Utilities

                Backup and Restore Utilities

                Diagnostics

                Password Change

                Configure Meridian MAX System

                Alter / View Meridian MAX - IPE Module Information

                Help

                Logout


        Press v,r,b,d,p,c,a,h,or l and ENTER:
```

7 Enter **v,** followed by **{RETURN}**, for the View/Modify Meridian MAX Options screen. Then enter **c,** followed by **{RETURN}**, to view the Meridian MAX options already selected for your site.

The system displays the Meridian MAX Options screen. This screen is a sample. Note that for an IPE system, 19 LAN supervisor sessions are supported as well as one direct connection.

—continued—

Procedure 12-4 (continued)
New Installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response

```
                    Meridian MAX Options


Product Release            :07.0x        Software Version          :07.xx
Hardware Platform          :SNN          Database Version          :07.00
Meridian 1 Serial #        :12345        Customer Number           :0
Agent-ID mode              :NO
Number of Ports            :40
Max. Position IDs          :1200
LAN Supervisor Sessions    :60
Configuration Control [CC] :ENABLED
Formula Definition [FD]    :ENABLED
NAC Connectivity [NAC]     :ENABLED
MSL-1 NACD MIS [NACD]      :ENABLED
CCR/EAR MIS [CCR]          :ENABLED
Datastream Reporting [OSR] :ENABLED
M1 Terminal Emulator [MTE] :ENABLED
Multiple Queue Assgn. [MQA] :ENABLED
MAX Status Interface [MSI] :DISABLED


                  Press ENTER to return to menu.
```

8 Compare the *Customer Number* field with the customer number you want your system to have.

Press **{RETURN}** to return to the Maintenance and Administration menu.

9 If the *Customer Number* field is correct, go to Step 16.

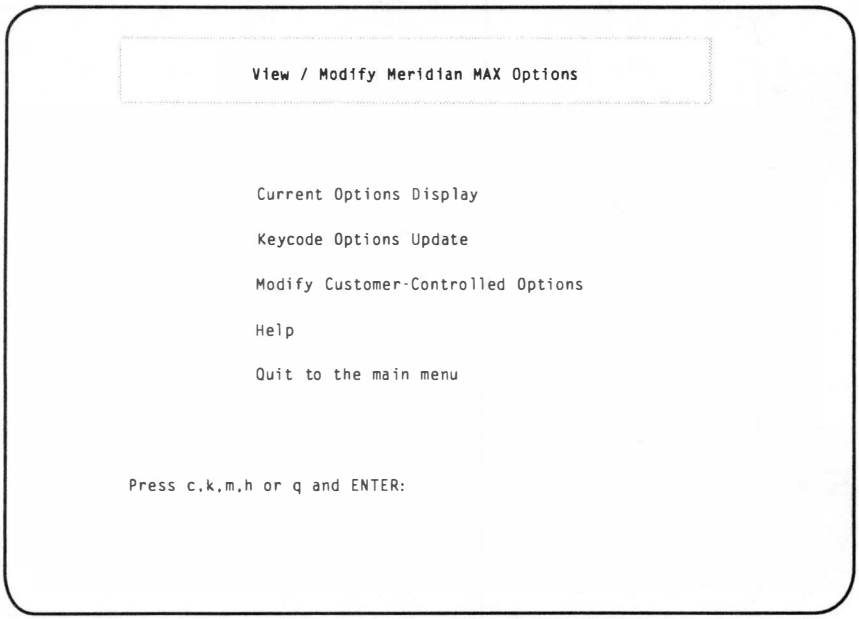
If the *Customer Number* field is incorrect, enter **v**, followed by **{RETURN}**.

The system then displays the View/Modify Meridian MAX Options screen:

—continued—

Procedure 12-4 (continued)
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response



10	Enter **m**, followed by **{RETURN}** for the Modify Customer-Controlled Options menu. The system displays the following screen:

—continued—

Procedure 12-4 (continued)
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response

```
                Modify Customer-Controlled Options


                Agent-IO mode

                System Customer Number

                Combined Call Abandon Reporting Feature

                Help

                Quit to View / Modify MAX Options menu


Press a,s,c,h or q and ENTER:
```

11 Enter **c**, followed by **{RETURN}**. to assign a new customer number for this Meridian MAX site.

```
The system customer number is #
```

(where # represents the current customer number)

```
Press y and ENTER to change the customer number
(Just ENTER to quit)
```

12 Enter **y**, followed by **{RETURN}**.

The system displays the following:

```
Which customer number would you like this MAX site to use?
```

—continued—

Procedure 12-4 (continued)
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response
13	Enter the number between 0 and 99 (inclusive) that corresponds to the customer number assigned to your Meridian 1 switch, followed by **{RETURN}**. The system displays the following: `Customer number changed to ##` (Where ## is the customer number you entered.) The system then returns to the Modify Customer-Controlled Options screen.
14	Enter **q** and press **{RETURN}** to return to the View/Modify Meridian MAX Options screen.
15	Enter **q** and press **{RETURN}** to return to the Meridian MAX Maintenance and Administration menu.
16	Enter **r** and press **{RETURN}**. The system displays the Restart and Power Down System Utilities submenu.

—continued—

Procedure 12-4 (continued)
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response

```
                    Restart and Power Down Utilities


                    Restart the Meridian MAX System

                    Secure the System for Power Down

                    Help

                    Quit to the main menu




          Press r,s,h,or q and ENTER:
```

17	Enter **r**, followed by **{RETURN}**. The system begins the Restart the Meridian MAX System utility: `Press y and ENTER to confirm system restart. (Just ENTER to quit)`
18	Enter **y**, followed by **{RETURN}**. The system displays the following:

—continued—

Procedure 12-4 (continued)
New installation of the Meridian MAX - IPE 7: factory-installed software

Step	Installer's action and system's response

	`The operating system will shut down and restart, and then MAX will restart.`
	
	`Please wait for system to reboot.`
	
	The system displays a number of messages as it shuts down. After shutdown the system automatically reboots.
	
	`Console Login:`

19	Before logging in, ensure that the installation was successful. Review the Meridian MAX error log for any fatal messages. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, "View MAX Error Log" subsection for more information.
20	Ensure that the correct system options were enabled. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Options Display" subsection for more information.
21	If the system was installed correctly, go to Step 22. If the system was not installed correctly, you must re-install it. Ensure no errors occurred within the steps you want to skip. If you are unsure, restart the re-installation from the beginning. If the errors persist, contact your Nortel distributor.
22	Insert a new blank tape into the tape drive for daily backup. Ensure that the write-protect tab on the blank cartridge tape is set to write enabled to allow the system to write information on the tape (refer to Figure 11-2). The importance of backups is explained in the "Software installation overview" chapter, "Backups" section.
23	Log in as **precut** to view the Meridian MAX Training Mode screen. Refer to the "Operating modes" chapter, "Switching from Training mode to Precut-over mode" procedures, for further instructions on how to transfer your system from Training mode to Precutover mode.

—end—

Chapter 13: Loading a new software release

As new issues of Meridian MAX 7 software are developed, you can purchase an updated version of the software and install it onto your Meridian MAX 7 system. You can also change your system's language options through a load new software release procedure.

Use Procedure 13-1 if you need to load a new Meridian MAX 7 software release onto an existing Meridian MAX 7 SNN system. Use Procedure 13-2 if you are loading a new Meridian MAX 7 software release onto an existing Meridian MAX - IPE 7 system.

> ***Note:*** These procedures should only be used if the new software's options are identical to your existing options. If the new software options are different from your existing options, refer to the "Software re-installations and upgrades" chapter of this document for procedures to re-install or upgrade your Meridian MAX 7 system.

Meridian MAX 7 SNN system

To load new software onto an existing Meridian MAX SNN system, follow Procedure 13-1.

Procedure 13-1
Load New Software Release to Meridian MAX 7 SNN system

Step	Installer's action and system's response
1	Using the maintenance console, log in as **maint**. The system displays the following: `Password:`

2	Enter the maintenance password.
	Once you enter the password, the system displays copyright and hardware configuration information followed by prompts.
	`***`
	`erase = DEL  kill = ^u  intr = ^c  quit = ^x`
	`***`
	Note: The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.
	The system shows the system-active Maintenance and Administration menu.

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response

```
                Meridian MAX Maintenance and Administration

                View / Modify Meridian MAX Options

                Shutdown the System

                Backup Customer Data to Tape

                Diagnostics

                Password Change

                Configure Meridian MAX System

                Help

                Logout


        Press v,s,b,d,p,c,h or l and ENTER:
```

3 Enter **s**, followed by **{RETURN}**, to shut down the system.

The screen clears and then asks you to confirm your choice:

```
Press y and ENTER to confirm system shutdown. (Just ENTER to quit)
```

4 Enter **y**, followed by **{RETURN}**, to confirm the shutdown of the system.

The system displays the following:

```
Meridian MAX terminating...
Signal forces mapa_logger termination
cron aborted: SIGTERM
```

The system shows the system-inactive Maintenance and Administration menu.

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response

```
                Meridian MAX Maintenance and Administration


                View / Modify Meridian MAX Options

                Restart & Power Down System Utilities

                Backup and Restore Utilities

                Diagnostics

                Password Change

                Configure Meridian MAX System

                Help

                Logout


          Press v,r,b,d,p,c,h,or l and ENTER:
```

5	Enter **b**, followed by **{RETURN}**, to go to the Backup and Restore Utilities menu. The system displays the Backup and Restore Utilities menu.

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response

```
                Meridian MAX Backup and Restore Utilities


                Backup Customer Data to Tape

                Restore Customer Data from Tape

                Load New Software Release

                Data Database Check

                Help

                Quit to the main menu



          Press b,r,l,d,h or q and ENTER:
```

6 Enter **l**, followed by **{RETURN}**, to run the Load New Software Release utility.

The system displays the following messages.

```
Upgrade of Meridian MAX software requires that you save the current
contents of the hard disk on a tape. Do you want to save the contents
of the hard disk on a tape (y/n)?
```

7 If you have just made a backup of the hard disk, enter **n**, followed by **{RETURN}**, and go to Step 10.

If you have not made a current backup, or you are not sure whether the backup you have is current, then enter **y**, followed by **{RETURN}**, in response to this prompt.

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response

	The system then displays the following messages.
	`Please insert a blank 600M tape into the tape drive.`
	`The small LED on the front of the tape drive will light up and can stay lit from 20 seconds to 3 minutes. This is to allow time for the tape to rewind.`
	`(If you have inserted the tape backwards in the drive, the tape will be ejected immediately. Please re-insert it correctly.)`
	`Press y and ENTER to begin the data backup procedure when the LED is no longer lit. (Just ENTER to quit) [Press y and ENTER here]`

8	If you have inserted the backup tape correctly and want to begin the data backup, enter **y**, followed by **{RETURN}**.
	The system continues.
	`Checking for a blank 600M tape...`
	`Backup of customer data starting.`
	`Estimated time for backup is xx minute(s).`
	(where xx is the time the system estimates for the backup)
	`Verifying the backup.`
	`Backup of customer data is completed.`
	`Please remove the tape and save it.`
	`Press ENTER to continue.`

9	Remove the tape from the tape drive and press **{RETURN}** to continue.

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response

10	The system continues.
	`Upgrade of Meridian MAX software begins.`
	`Do you wish to continue (y/n) ?`

11	Enter **y**, followed by **{RETURN}**.
	`Please insert the cassette tape containing Meridian MAX Software which will be copied on the hard disk.`
	`Did you put in the cassette tape?`
	`Please enter yes/no/quit-to abort (y/n/q)`

12	Insert the cassette tape which contains the new MAX application software into the module's tape drive, then latch the tape drive closed.
	Enter **y**, followed by **{RETURN}**.
	The system displays the following messages.
	`The tape drive is now rewinding the tape. Please wait.`
	`This will take anywhere from 20 seconds to 2 minutes.`
	`Tape is finished rewinding.`
	`***> Checking tape in drive`
	`***> Copying files from tape to disk; please wait a few minutes... (TIME)`

13	The system prompts you to enter your 20-character alphanumeric keycode followed by your SL-1 serial number. These characters are represented by the pound key (#) followed by **{RETURN}**.
	`Please enter the first four characters of the keycode, or 'q' to quit: ####`
	`Please enter the next four characters of the keycode, or 'q' to quit: ####`

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response
	Please enter the next four characters of the keycode, or 'q' to quit: #### Please enter the next four characters of the keycode, or 'q' to quit: #### Please enter the last four characters of the keycode, or 'q' to quit: #### Please enter the SL-1 serial number that corresponds to this keycode, or 'q' to quit: #####
14	If the system is unable to decrypt the keycode, you are prompted to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure and prompts you to contact your Nortel service representative. If the keycode is decrypted successfully, the system continues with the following: The following options were encoded in the keycode that you entered. Please verify that the options are correct: Option : Setting ------ : ------- Serial Number : ##### Platform : SNN Number of Ports : 40 Max. Position IDs : 1200 LAN Supervisor Sessions : 60 Configuration Control [CC] : ENABLED Formula Definition [FD] : ENABLED NAC Connectivity [NAC] : ENABLED MSL-1 NACD MIS [NACD] : ENABLED CCR/EAR MIS [CCR] : ENABLED Datastream Reporting [DSR] : ENABLED

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response
	M1 Terminal Emulator [MTE]: ENABLED Multiple Queue Assgn. [MQA]: ENABLED MAX Status Interface [MSI]: DISABLED This configuration is an example. Your system options may differ. Note that for an SNN system, 59 LAN supervisor sessions are supported as well as one direct connection.
15	Are the options correct? (y/n) The system then prompts you to confirm your system configuration. If the options are incorrect, enter **n**. The system prompts you to reenter the keycode or abort the procedure. If the system configuration is correct, enter **y**. The system continues. ***> Copying files from tape to disk; also unpacking them. To do this will take about 10 minutes... (TIME) ***> Creating the SYSTEM database - please wait... (TIME) SYSTEM database created. Loading MAX 7 system data files... Extracting previous system data files... Loading more MAX 7 system data files... Data files loaded
16	The system displays the language options installed on your system. The language options listed below are provided as an example only. Your system language options may differ. Your current language options are: Default: English Secondary: French Would you like to change your secondary language (y/n)?

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response
17	If the language options displayed by the system are correct and you do not want to change them, enter **n**, followed by **{RETURN}**. Go to Step 21. If the language options displayed by the system are not correct and you want to change them, enter **y**, followed by **{RETURN}**.

18	The system displays the available system secondary language options. For example:
	
	`Available system secondary language options:`
	
	`1. French`
	`2. Spanish`
	`3. German`
	`4. Japanese`
	
	`Please select the MAX secondary language by entering its number:`

19	Enter the number associated with the secondary language option you want to install, followed by **{RETURN}**. The system then displays the current system language options and the following message. `Are the language options correct (y/n)?`
20	If the language options displayed are not correct and you want to change them, enter **n**, followed by **{RETURN}**. Go to Step 18. If the language options displayed are correct, enter **y**, followed by **{RETURN}**.

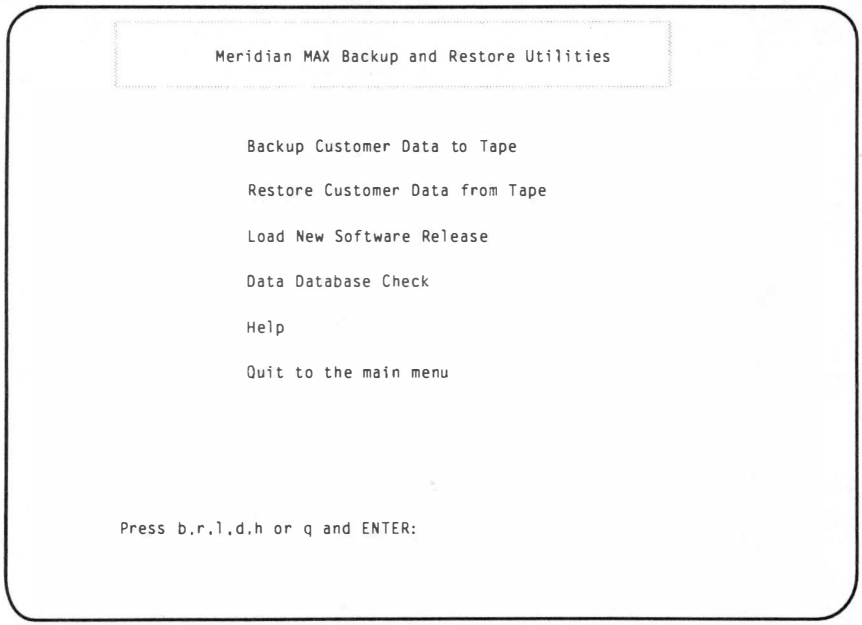
21	`Upgrade of Meridian MAX software has been completed.`
	`You may now remove the tape from the tape drive.`
	`Press ENTER to return to menu.`

22	Press **{RETURN}**. The system returns to the Backup and Restore Utilities screen. Remove the cassette tape containing the Meridian MAX software from the tape drive.

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response

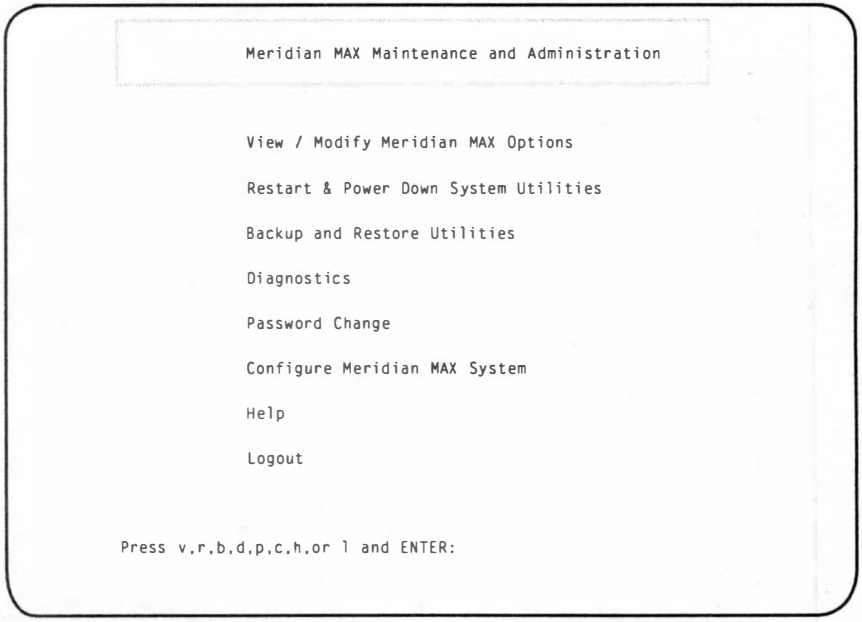


23	Enter **q**, followed by **{RETURN}**, to quit the menu and return to the system-inactive Maintenance and Administration menu.

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response

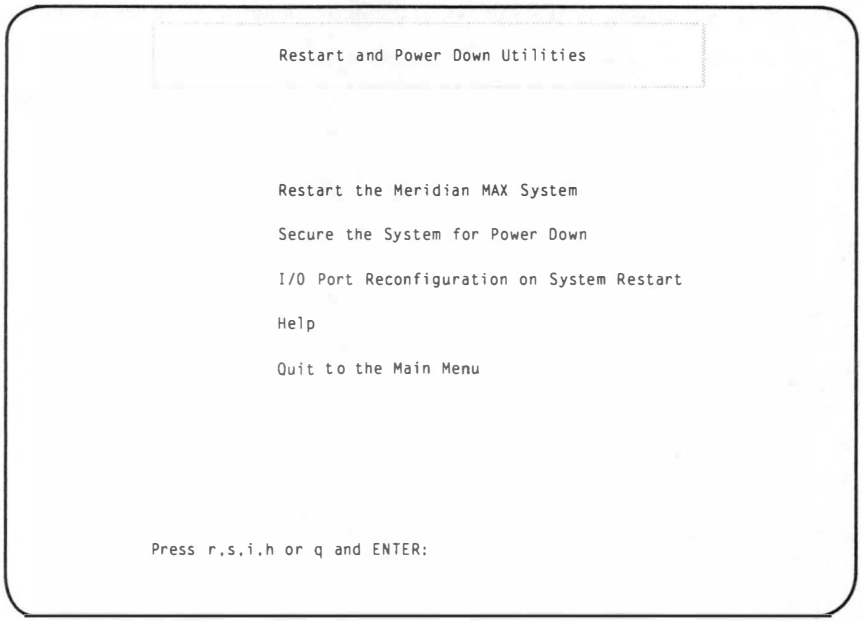


24	Enter **r**, followed by **{RETURN}** to select the Restart and Power Down System Utilities menu.

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response



25	Enter **r**, followed by **{RETURN}**, to restart the system. The system clears the screen and displays the following prompt. `Press y and ENTER to confirm system restart. (Just ENTER to quit)`

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response

26	Enter **y**, followed by **{RETURN}**, to confirm that you want to restart the system.
	The system displays the following messages:
	`The operating system will shut down and restart, and then MAX will restart. Please wait for the system to reboot.`
	
	`INIT: New run level: 6`
	`The system is coming down. Please wait.`
	`System services are now being stopped.`
	`NFS shutdown: [NFS Shutdown Complete]`
	`The system is down.`
	`NOTICE: System Reboot Requested (0)`
	
	`Copyright Motorola Inc. 1989 - 1993 All Rights Reserved`
	`VME167 Monitor/Debugger Release 1.5 - 02/14/93`
	`COLD START`
	
	`Local Memory Found =01000000 (&33554432)`
	
	`MPU Clock Speed =33Mhz`

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response

```
Autoboot in progress... To abort hit <BREAK>
Booting from: VME167, Controller 0, Drive 0
Loading: Operating System

Volume: $00000000

IPL loaded at: $001F0000
VME Disk IPL Version 52.2
***
 erase = DEL   kill = ^u  intr = ^c   quit = ^x
***
```

***Note*:** The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------------------
Disk      00  0002 8770...   .......   2054325 0512 SEAGATE ST11200N
Tape      40  0001 RV J...   .......   0000000 0000 TEAC     MT-2ST/F50B
```

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response
	Enter <CR> to pause in a single user shell before init. Default boot sequence continuing... The system is coming up. Please wait. Node name set to MAX00. mount -f S51K /dev/usr /usr Checking for system dump ... Expreserve notification performed. Downloading MVME332XT Line Disciplines. Error logging started. OSM Logging Started. port_hold started. Transport Provider daemon started. Internet services provided. portmap started. Stream Error logging started. netspec "tcpip" not set up. Line printer scheduler started. Loading System Language Strings... Loading System Language Strings completed. Starting MAX OSM logger, Please Wait... OSM logging Stopped. MAX OSM Logging Started.

—continued—

Procedure 13-1 (continued)
Load new software release to Meridian MAX 7 SNN system

Step	Installer's action and system's response
	Meridian MAX Release 07.xx Meridian MAX XXXXXX Mode. (where XXXXXX is the mode in which you started) The system is ready. Console login:

—end—

Meridian MAX - IPE 7 system

To load new software onto an existing Meridian MAX - IPE 7 system, follow Procedure 13-2.

Procedure 13-2
Load new software release to Meridian MAX - IPE 7

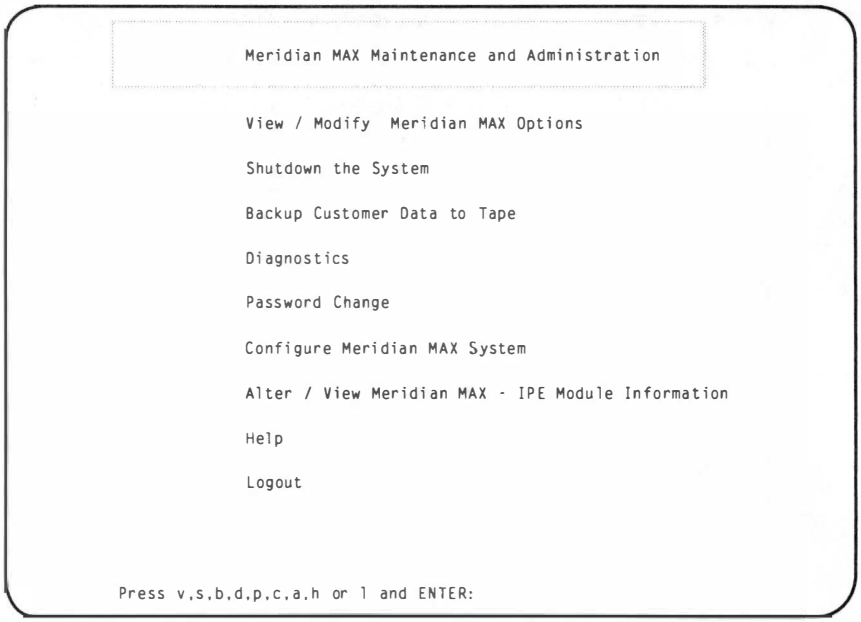
Step	Installer's action and system's response
1	Using the maintenance console, log in as **maint**. The system displays the following: `Password:`

2	Enter the maintenance password.
	
	Once you enter the password, the system displays copyright and hardware configuration information followed by prompts.
	
	`***`
	`erase = DEL  kill = ^u  intr = ^c  quit = ^x`
	`***`
	
	Note: The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.
	
	The system shows the system-active Maintenance and Administration menu.

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response



3 Enter **s**, followed by **{RETURN}**, to shut down the system.

The screen clears and then asks you to confirm your choice:

```
Press y and ENTER to confirm system shutdown. (Just ENTER to quit)
```

4 Enter **y**, followed by **{RETURN}**, to confirm the shutdown of the system.

The system displays the following:

```
Meridian MAX terminating...
Signal forces mapa_logger termination
cron aborted: SIGTERM
```

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response
5	The system displays the system-inactive Maintenance and Administration menu.

```
        Meridian MAX Maintenance and Administration

        View / Modify Meridian MAX Options

        Restart & Power Down System Utilities

        Backup and Restore Utilities

        Diagnostics

        Password Change

        Configure Meridian MAX Hardware

        Alter / View Meridian MAX - IPE Module Information

        Help

        Logout


Press v,r,b,d,p,c,a,h,or l and ENTER:
```

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response
6	Enter **b**, followed by **{RETURN}**, to go to the Backup and Restore Utilities menu. The system displays the Backup and Restore Utilities menu.

```
Meridian MAX Backup and Restore Utilities


Backup Customer Data to Tape

Restore Customer Data from Tape

Load New Software Release

Data Database Check

Help

Quit to the main menu




Press b,r,l,d,h or q and ENTER:
```

7	Enter **l**, followed by **{RETURN}**, to run the Load New Software Release utility. The system displays the following message: `Upgrade of Meridian MAX software requires that you save the current contents of the hard disk on a tape. Do you want to save the contents of the hard disk on a tape (y/n)?`
8	If you have just made a backup of the hard disk, enter **n**, followed by **{RETURN}**, and go to Step 11. If you have not made a current backup, or you are not sure whether the backup you have is current, then enter **y**, followed by **{RETURN}**, in response to this prompt.

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response

	The system then displays the following messages.
	
	`Please insert a blank tape into the tape drive and turn the tape drive handle clockwise to lock the drive door.`
	
	`The small LED on the front of the tape drive will light up and stay lit from 20 seconds to 3 minutes. This is to allow time for the tape to rewind.`
	
	`(If the LED is flashing continuously, then you have inserted the tape backwards in the drive. Remove the tape and reinsert it correctly.)`
	
	`Press y and Enter to begin the data backup procedure when the LED is no longer lit. (Just ENTER to quit)`

9	If you have inserted the backup tape correctly, and want to begin the data backup, enter **y**, followed by **{RETURN}**.
	
	The system continued.
	
	`Checking for a blank tape...`
	
	`Backup of customer data is starting.`
	
	`Estimated time for backup is xx minute(s).`
	
	(where xx is the time the system estimates for the backup)
	
	`Verifying backup.`
	
	`Backup of customer data is completed.`
	
	`Please remove the tape and save it.`
	
	`Press ENTER to continue.`

10	If you have removed the backup tape from the tape drive and want to continue, press **{RETURN}**.

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response

11	The system continues.
	
	`Upgrade of Meridian MAX software begins.`
	
	`Do you wish to continue (y/n)?`

12	Enter **y**, followed by **{RETURN}**.
	
	`Please insert the cassette tape containing Meridian MAX Software which will be copied on the hard disk.`
	
	`Did you put in the cassette tape?`
	
	`Please enter yes/no/quit-to abort (y/n/q)`

13	Insert the cassette tape which contains the new MAX application software into the module's tape drive, and latch the tape drive closed.
	
	Enter **y**, followed by **{RETURN}.**
	
	The system displays the following messages.
	
	`The tape drive is now rewinding the tape. Please wait.`
	
	`This will take anywhere from 20 seconds to 2 minutes.`
	
	`Tape is finished rewinding.`
	
	`***> Checking tape in drive`
	
	`***> Copying files from tape to disk; please wait a few minutes... (TIME)`

14	The system prompts you to enter your 20-character alpha-numeric keycode followed by your SL-1 serial number. These characters are represented by the pound key (#) followed by **{RETURN}**.
	
	`Please enter the first four characters of the keycode, or 'q' to quit: ####`
	
	`Please enter the next four characters of the keycode, or 'q' to quit: ####`

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response
	Please enter the next four characters of the keycode, or 'q' to quit: #### Please enter the next four characters of the keycode, or 'q' to quit: #### Please enter the last four characters of the keycode, or 'q' to quit: #### Please enter the SL-1 serial number that corresponds to this keycode, or 'q' to quit: #####
15	If the system is unable to decrypt the keycode, you are prompted to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure and prompts you to contact your Nortel service representative. If the keycode is decrypted successfully, the system continues with the following: The following options were encoded in the keycode that you entered. Please verify that the options are correct: Option Setting ------ ------- Serial Number : ##### Platform : IPE Number of Ports : 8 Max. Position IDs : 200 LAN Supervisor Sessions : 20 Configuration Control [CC]: ENABLED Formula Definition [FD]: ENABLED NAC Connectivity [NAC]: ENABLED MSL-1 NACD MIS [NACD]: ENABLED CCR/EAR MIS [CCR]: ENABLED Datastream Reporting [DSR]: ENABLED

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response
	M1 Terminal Emulator [MTE]: ENABLED Multiple Queue Assgn. [MQA]: ENABLED MAX Status Interface [MSI]: DISABLED This configuration is an example. Your system options may differ. Note that for an IPE system, 19 LAN supervisor sessions are supported as well as one direct connection.
16	Are the options correct? (y/n) The system then prompts you to confirm your system configuration. If the options are incorrect, enter **n**. The system prompts you to reenter the keycode or abort the procedure. If the system configuration is correct, enter **y**. The system continues. ***> Copying more files from tape to disk; also unpacking them. To do this will take about 10 minutes... (TIME) ***> Creating the SYSTEM database - please wait... (TIME) SYSTEM database created. Loading MAX 7 system data files... Extracting previous system data files... Loading more MAX 7 system data files... Data files loaded
17	The system displays the language options installed on your system. The language options listed below are provided as an example only. Your system language options may differ. Your current language options are: Default: English Secondary: French Would you like to change your secondary language (y/n)?

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response
18	If the language options displayed by the system are correct and you do not want to change them, enter **n**, followed by **{RETURN}.** Go to Step 22. If the language options displayed by the system are not correct and you want to change them, enter **y**, followed by **{RETURN}.**

19	The system displays the available system secondary language options. For example:
	
	`Available system secondary language options:`
	
	`1. French`
	`2. Spanish`
	`3. German`
	`4. Japanese`
	
	`Please select the MAX secondary language by entering its number:`

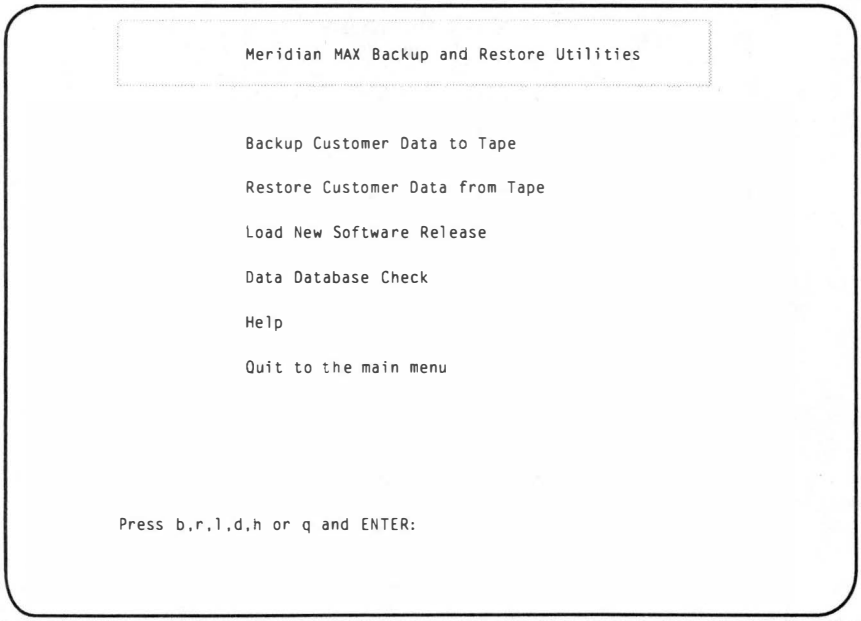
20	Enter the number associated with the secondary language option you want to install, followed by **{RETURN}**. The system then displays the current system language options and the following message. `Are the language options correct (y/n)?`
21	If the language options displayed are not correct and you want to change them, enter **n**, followed by **{RETURN}.** Go to Step 19. If the language options displayed are correct, enter **y**, followed by **{RETURN}.**

22	`Upgrade of Meridian MAX software has been completed.`
	`You may now remove the tape from the tape drive.`
	`Press ENTER to return to menu.`

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response
23	Press **{RETURN}**. The system returns the Backup and Restore Utilities screen.



—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response
24	Enter **q**, followed by **{RETURN}**, to quit the menu and return to the system-inactive Maintenance and Administration menu.

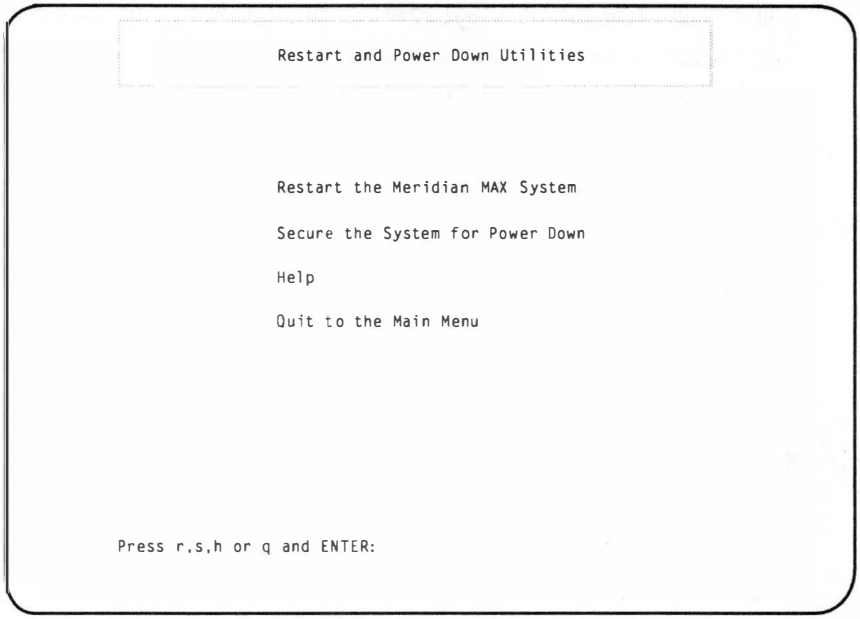
```
        Meridian MAX Maintenance and Administration

        View / Modify Meridian MAX Options

        Restart & Power Down System Utilities

        Backup and Restore Utilities

        Diagnostics

        Password Change

        Configure Meridian MAX System

        Alter / View Meridian MAX - IPE Module Information

        Help

        Logout


Press v,r,b,d,p,c,a,h,or l and ENTER:
```

25	Enter **r**, followed by **{RETURN}** to select the Restart and Power Down System Utilities menu.
26	Remove the cassette tape containing the Meridian MAX software from the tape drive.

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response



27	Enter **r**, followed by **{RETURN}**, to restart the system. The system clears the screen and displays the following prompt. `Press y and ENTER to confirm system restart. (Just ENTER to quit)`

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response

28	Enter **y**, followed by **{RETURN}**, to confirm that you want to restart the system.
	The system displays the following messages:
	`The operating system will shut down and restart, and then MAX will restart. Please wait for the system to reboot.`
	
	`INIT: New run level: 6`
	`The system is coming down. Please wait.`
	`System services are now being stopped.`
	`NFS shutdown: [NFS Shutdown Complete]`
	`The system is down.`
	`NOTICE: System Reboot Requested (0)`
	
	`Copyright Motorola Inc. 1988 - 1993, All Rights Reserved`
	`M4120 Debugger/Diagnostic Release Version 1.1 - 01/11/93`
	`COLD START`
	
	`Local Memory Found =01000000 (&16777216)`
	
	`MPU Clock Speed =25Mhz`
	
	`Autoboot in progress... To abort hit <BREAK>`
	`Booting from: M4120, Controller 0, Device 0`
	`Loading: Operating System`

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response

```
Volume: $00000000


IPL loaded at: $001F0000
VME Disk IPL Version 52.2
***
 erase = DEL    kill = ^u  intr = ^c   quit = ^x
***
```

Note: The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------ -----------
Disk     00  0001 M606...   .......   0352176 0512 FUJITSU   M2614S
Tape     40  0001 RV F...   .......   0000000 0000 TEAC      MT-2ST/N50
```

This configuration is an example. Your system messages may differ.

```
Enter <CR> to pause in a single user shell before init.


Default boot sequence continuing...
The system is coming up. Please wait.
Node name set to MAX00.
mount -f S51K /dev/usr /usr
Checking for system dump ...
Expreserve notification performed.
Error logging started.
OSM Logging Started.
```

—continued—

Procedure 13-2 (continued)
Load new software release to Meridian MAX - IPE 7

Step	Installer's action and system's response
	port_hold started. Transport Provider daemon started. Internet services provided. portmap started. Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started. Loading System Language Strings... Loading System Language Strings completed. Starting MAX OSM logger, Please Wait... OSM Logging Stopped. MAX OSM Logging Started. Meridian MAX release 07.xx The system is ready. Console login:

—end—

Chapter 14: Software reinstallations and upgrades

Before starting any upgrade, verify that the system is performing properly. Check the Meridian MAX error log and the UNIX system log (when appropriate) to verify that midnight backups are successfully completed. Schedule an upgrade to be completed before 11:30 p.m. or started after 1:00 a.m. so that the regular Meridian MAX midnight routines are executed properly.

Table 14-1 lists the software reinstallation or upgrade procedures for Meridian MAX 7 SNN, and IPE. Refer to the "Software overview" chapter, "Meridian MAX 7 platforms" section for definitions of the Meridian MAX 7 platform acronyms.

Note: Once MQA or NACD are enabled, they can only be disabled by performing a new installation. When the new installation is performed all previous data is lost.

Table 14-1
Meridian MAX 7 software reinstallation or upgrade procedures

Description of software installation procedures	Procedure #
Software reinstallation or upgrade to a Meridian MAX 7 SNN	14-1
Software reinstallation or upgrade to a Meridian MAX - IPE 7	14-2

Refer to the "Software installation overview" chapter, "Backups" section for information on performing backup tapes.

Software reinstallation or upgrade to Meridian MAX 7 SNN

Use Procedure 14-1 if you want to perform one of the following procedures:

- Installation Upgrade: Upgrade your Meridian MAX - IPE 7 system to a Meridian MAX 7 SNN system.
- Reinstallation: Reinstall your current SNN system's software.

  Note: The system treats a reinstallation procedure as an installation upgrade.

- Application Upgrade: Install new SNN software that upgrades the current system's applications.

After the system reboot following the OS and application tape installation, you can follow one of two paths in this procedure.

Ensure that the proper hardware procedures have been completed before beginning this procedure.

If you do not have a backup tape or do not want to install your backup data onto the new system, you can switch the installation upgrade to a new installation. This alteration allows you to skip over the steps where the backup data tape is inserted and loaded onto the system.

If you want to load your backup data, continue the installation as an installation upgrade and follow the screen prompts and messages to load the backup tape.

To perform the following procedure, you need the Meridian MAX Application tape and the Generic Operating System tape.

Procedure 14-1
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
1	Ensure that the MVME167-34 card has been configured correctly. Refer to the "Hardware installation: Application Module" chapter, "Hardware upgrades and replacements" section, "Configuring the MVME167-34 card" subsection.
2	Login to your maintenance console as **maint**.
3	Before starting this procedure, create a backup tape. Ensure the software on your current Meridian MAX system is shut down prior to creating the backup tape. If the backup tape is created while the system is running, the backup tape will not contain the current day's data. To shut down your Meridian MAX system, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX options" section, "Shut down the system" subsection.
4	When the Meridian MAX system is shut down, choose option **b**, Backup and Restore Utilities, at the Meridian MAX Maintenance and Administration menu.
5	From the Backup and Restore Utilities submenu, choose option **b** again, *Backup Customer Data to Tape* to save the Meridian MAX 7 system's database to the tape. This ensures that all current Meridian MAX data is backed up. This procedure uses cassette tapes. Care must be taken to avoid damaging the tape, as its fragility can result in tape errors during the installation procedure. Keep tapes away from excessive heat or electromagnetic radiation. Figure 11-1 shows the correct method for inserting and locking a tape cassette into the tape drive. Make sure the arrow on the label points towards the drive, and that the notch in the cassette tape is pointing down.
6	Shut down the software on your current Meridian MAX system. Follow the power-down procedure in the "Meridian MAX power-down procedure" chapter to power down the system. Perform any necessary hardware installation upgrades.
7	Make sure the power is turned off.

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
8	Insert the Meridian MAX 7 Operating System tape.

9	Power up the module. The power switch is located on the left-hand side of the AEM module. The upper switch controls the power for the application module in the left side of the AEM, while the lower switch controls the power for the the right side.
	
	The system displays the copyright and hardware configuration information. Your system messages may differ.
	
	`Copyright Motorola Inc. 1988 - 1993, All Rights Reserved`
	`MVME167 Debugger/Diagnostics Release Version 1.1 - 01/11/93`
	`COLD Start`
	
	`Local Memory Found =02000000 (&33554432)`
	`MPU Clock Speed = 33Mhz`
	`Autoboot in progress... To abort hit <BREAK>`

10	Press **{BREAK}** to stop the hard disk load and begin the tape load.
	
	Note: {F5} on the VT520 and VT420 is equivalent to the {BREAK} key.
	
	`--Break Detected--`
	`167-Bug>`

11	Wait for the tape to rewind. The tape drive light turns off when the tape is re-wound.
	
	At the previous prompt, enter **bo 0,40** followed by **{RETURN}**.
	
	`Booting from: VME167, Controller 0, Drive 40`
	`Loading: Operating System`
	`Volume: V/68`

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

```
IPL loaded at: $001F0000
MVMETAPE IPL Version 1.0
```

There is a one to two minute delay before the system continues.

```
**************************************************************************
          System V/68 Release R3V7 M68040 Version 920526
                       Real mem  = 31457280
                       Avail mem = 29900800
                       Buffers   = 60
**************************************************************************
Copyright (c) 1984-1992 Motorola Inc. All rights reserved
INIT: SINGLE USER MODE
***
  erase = #   kill = @  intr = DEL  quit = ^|
***
```

Note: The previous message indicates that pressing the key that backspaces and deletes one character causes a system interruption which terminates the current process. The **{#}** key deletes and backspaces one character. If you press the delete/backspace key accidentally, press **{CONTROL}{D}** to reset the system.

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------ -----------
Disk     00  0002 8770...   .......   2054325 0512 SEAGATE ST11200N
Tape     40  0001 RV J...   .......   0000000 0000 TEAC     MT-2ST/F50B
```

This configuration is only an example. Your system may differ.

```
Enter the correct date and time EST [mmddhhmmyy]:
```

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
12	Enter the correct date and time, followed by **{RETURN}**. The first pair of numbers represent the month, the second pair of numbers represent the day, the third pair of numbers represent the hour in the 24-hour time cycle, the fourth pair of numbers represent the minutes, and the last pair of numbers represent the last two digits of the year. For example, if 0512122193 is entered, the system asks you the following question. `Is the date Wed May 12 12:21:00 1993 EST correct? (y or n)`

13	If the date and/or time you entered is incorrect, enter **n**, followed by **{RETURN}**. The system then returns you to Step 12. If the date and time you entered are correct, enter **y**, followed by **{RETURN}**. The system continues.
	
	`***> From this point on, many system messages will be timestamped. (TIME)`
	
	`***`
	
	`New character settings: erase = DEL kill = ^u intr = ~ quit = ^x`
	
	`***`
	
	Note: The previous message indicates that pressing the **{~}** key causes a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

14	The system prompts you to enter your 20-character alphanumeric keycode followed by your SL-1 serial number. These characters are represented by the pound key (#) followed by **{RETURN}**.
	
	`Please enter the first four characters of the keycode, or 'q' to quit: ####`
	
	`Please enter the next four characters of the keycode, or 'q' to quit: ####`

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
	Please enter the next four characters of the keycode, or 'q' to quit: #####
	Please enter the next four characters of the keycode, or 'q' to quit: #####
	Please enter the last four characters of the keycode, or 'q' to quit: #####
	Please enter the SL-1 serial number that corresponds to this keycode, or 'q' to quit: ######
15	If the system is unable to decrypt the keycode, you are prompted to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure and prompts you to contact your Nortel service representative. If the keycode is decrypted successfully, the system continues with the following: The following options were encoded in the keycode that you entered. Please verify that the options are correct: Option : Setting Serial Number : ##### Platform : SNN Number of Ports : 40 Max. Position IDs : 1200 LAN Supervisor Sessions : 60 Configuration Control [CC]: ENABLED Formula Definition [FD]: ENABLED NAC Connectivity [NAC]: ENABLED MSL-1 NACD MIS [NACD]: ENABLED CCR/EAR MIS [CCR]: ENABLED Datastream Reporting [DSR]: ENABLED

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
	M1 Terminal Emulator [MTE]: ENABLED Multiple Queue Assgn. [MQA]: ENABLED MAX Status Interface [MSI]: DISABLED This configuration is an example. Your system options may differ. Note that for an SNN system, 59 LAN supervisor sessions are supported as well as one direct connection.
16	Are the options correct? (y/n) The system then prompts you to confirm your system configuration. If the options are incorrect, enter **n**. The system prompts you to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure. Contact your Nortel service representative. If the system configuration is correct, enter **y**.
17	The system displays the hardware configuration. The following configuration is only an example. Your system configuration may differ. MAX has detected that you are running the following hardware configuration: System : Meridian MAX 7 SNN CPU : 167 Card Memory : 32 MB Hard Disk : 1.2 GB (Seagate ST11200N) Tape Drive : 600 MB (Teac MT-2ST/F50B) If this configuration does not match your configuration, or if this configuration is not the configuration ordered, please type "n" to the following question. The installation will abort. Please call your service representative for further assistance. ---> Do you wish to install the hardware configuration specified above (y/n) ?

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
18	If you want to abort the installation, enter **n**, followed by **{RETURN}**. If you want to install the hardware configuration, enter **y**, followed by **{RETURN}**.

19	The system then displays the Meridian MAX Software Installation Menu.
	
	If you are performing a reinstallation or installation upgrade, enter **2**, followed by **{RETURN}**.
	
	If you are performing an application upgrade, enter **3**, followed by **{RETURN}**.
	
	`The Meridian MAX Software Installation Menu`
	`-----------------------------------------`
	`1 New Installation`
	`2 Installation Upgrade`
	`3 Application Upgrade`
	`---> Enter a number to select the type of installation/upgrade desired, or enter q to quit :`

20	If you are performing a reinstallation or an installation upgrade, the system displays the following message. (The system views a reinstallation as an installation upgrade.)
	
	`Will perform an Installation Upgrade.`
	
	If you are performing an application upgrade, the system displays the following message.
	
	`***> Determining whether it is possible to perform an Application Upgrade...`
	`Will perform an Application Upgrade.`

21	The system continues. `---> Do you wish to restart a previously-aborted installation (y/n)?`

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

22	If you do not want to restart a previously aborted installation, enter **n**, followed by **{RETURN}**. Go to Step 24. If you want to restart a previously aborted installation, enter **y**, followed by **{RETURN}**. The system continues.
	
	`***> Determining whether the installation can be re-started...`
	
	The system then displays a menu.
	
	Note: Only those reentry points that have been verified by your system are shown in the Meridian MAX Installation/Upgrade Restart Menu.
	
	`The Meridian MAX Installation/Upgrade Restart Menu`
	`----------`
	`Restart Meridian MAX Installation/Upgrade from one of the following stages:`
	
	`1 From the Beginning`
	`2 Just Before Copying OS Files to Hard Disk`
	`3 Just Before Copying MAX Application Files to Hard Disk`
	`4 Just Before Booting From Hard Disk`
	
	`--> Enter a number to select the point from which to install, or enter q to quit:`

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

23	If you want to quit, enter **q**, followed by **{RETURN}**. The system returns you to the Meridian MAX Software Installation Menu, where you can restart the installation.
	
	If you want to restart the installation from the beginning, enter **1**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade from the beginning.`
	
	If you want to restart the installation just before the OS files are copied to the hard disk, enter **2**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the OS files are about to be copied to the hard drive.`
	
	If you want to restart the installation just before the Meridian MAX application files are copied to the hard disk, enter **3**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the application files are about to be copied to the hard drive.`
	
	If you want to restart the installation just before the Meridian MAX system boots from the hard disk, enter **4**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the system is about to be booted from the hard disk for the first time.`

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

24	The system continues.
	
	`---> Will the MAX system be in Agent-ID mode or Position-ID mode?`
	`(MAX must be in the same mode as the Meridian 1/SL-1.)`
	
	`Please enter either 'a' or 'p' :`
	
	If your Meridian MAX system is in Agent-ID mode or has Multiple Queue Assignment (MQA) enabled, enter **a**, followed by **{RETURN}**. If the system is in Position-ID mode, enter **p**, followed by **{RETURN}**.
	
	Note: If your Meridian MAX has MQA enabled, ensure that your Meridian 1 is also in Agent-ID mode.
	
	The system continues with the following prompt.
	
	`Please verify that the Meridian 1/SL-1 is in the same mode as MAX.`
	
	`Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?`
	
	(where XXXXX is either Agent or Position, depending upon which you entered at the beginning of Step 24.)

25	If the Meridian 1 is in the same mode as the Meridian MAX system, enter **y**, followed by **{RETURN}**.
	
	`WARNING: Meridian MAX installation/upgrade requires overwriting`
	`the hard disk. This means that FILES AND DATA ON THE`
	`DISK WILL BE DESTROYED.`
	
	`---> Do you wish to begin Meridian MAX installation (y, n, q, ?) [q]:`

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

26	If you want to begin the installation, enter **y**, followed by **{RETURN}**. The system continues.
	
	`***> Beginning installation/upgrade (TIME)`
	
	`***> Checking tape in drive... (TIME)`
	
	If you chose not to restart a previously aborted installation or chose reentry point 1 in Step 23 (to restart the installation from the beginning), go to Step 27.
	
	If you chose reentry point 2 in Step 23 (to restart the installation just before copying the OS files to the hard disk), go to Step 28.
	
	If you are performing an application upgrade, or if you chose reentry point 3 in Step 23 (to restart the installation just before copying the application files to the hard disk) the system displays the following messages.
	
	`***> Mounting root file system as /root (TIME)`
	
	`***> Mounting the usr file system as /root/usr (TIME)`
	
	`***> Installing MAX-specific configuration files (TIME)`
	
	`***> Setting permissions on installation disk's root directory (TIME)`
	
	Go to Step 29.

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
	If you chose reentry point 4 in Step 23 (to restart the installation just before booting from the hard disk for the first time), the system displays the following messages. ***> Mounting root file system as /root (TIME) ***> Mounting the usr file system as /root/usr (TIME) The system has been reset to perform the installation again, starting from the first boot from the hard disk. Please perform the following steps: 1. Remove the tape from the tape drive. 2. Turn off the power for the module. 3. Wait 20 seconds for the power to reset. 4. Turn on the power for the module. ********** Please reboot the system now. ********** Go to Step 33.
27	********** * * Stage 1 - Formatting Hard Drive and Creating Filesystems * * **********

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
28	***> Formatting root file system's disk drive (TIME) This will take about 30 minutes... ***> Writing slice table to /dev/rdsk/m167_00s7 (TIME) ***> Creating the root file system (TIME) ***> Labeling the root file system (TIME) ***> Creating the swap file system (TIME) ***> Labeling the swap file system (TIME) ***> Creating the usr file system (TIME) ***> Labeling the usr file system (TIME) ***> Installing boot-loader on root file system's disk drive (TIME) ********** * * Stage 2 – Copying OS Files to Hard Disk * ********** ***> Mounting root file system as /root (TIME) The following two messages only appear if no reentry point was used or if reentry point 1 was chosen. ***> Making the /tmp directory (TIME) ***> Making the /usr directory (TIME)

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
	***> Mounting the usr file system as /root/usr (TIME) ***> Copying files; this will take from 10 to 20 minutes depending upon your system configuration... (TIME) ***> Making the root file system lost+found directory (TIME) Reserving 224 entries ***> Making the usr file system lost+found directory (TIME) Reserving 1312 entries **The following message only appears if no reentry point was used or if reentry point 1 was chosen.** ***> Installing /etc/badtracks/m167_00 bad spot list (TIME) ***> Creating sysadm(1M) package information file (TIME) ***> Setting up the new operating system (TIME) ***> Creating root and usr file system associated device nodes (TIME) ***> Installing MAX-specific configuration files (TIME) ***> Setting permissions on installation disk's root directory (TIME)
29	** * * * Stage 3 – Copying MAX Application Files to Hard Disk * * * ** Please remove the OS tape from the tape drive and put in the Meridian MAX Application tape.

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
30	Remove the OS tape from the tape drive and insert the application tape. Wait for the tape to rewind. The tape drive light turns off when the tape is rewound. `Did you insert the application tape in the tape drive (y/n) ?`

31	If you followed the instructions given in Step 30 and the tape drive light is off, enter **y**, followed by **{RETURN}**.
	
	The system continues.
	
	`***> Checking tape in drive... (TIME)`
	
	`***> Copying files; this will take from 10 to 20 minutes depending upon your system configuration... (TIME)`

32	`**********`
	`*  *`
	`*  Stage 4 – Preparing to Reboot from Hard Disk  *`
	`*  *`
	`**********`
	
	`***> Unmounting all mounted file systems (TIME)`
	
	`***> Synchronizing the installation disk (TIME)`
	
	`**********`

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
	The Meridian MAX product has been installed on the hard disk. You may now remove the tape from the tape drive. * * * You must REBOOT the system and allow it to autoboot from the hard * * disk. Please power off the system now. * * * * Please allow 20 seconds between turning the power off and on again* * to allow the power to reset. * * * ********** **** REBOOT THE SYSTEM **** **********
33	After you turn off the power for the module, wait 20 seconds, and turn the power on again. The system automatically reboots. Your system messages may differ. Copyright Motorola Inc. 1988 - 1993, All Rights Reserved MVME167 Debugger/Diagnostics Release Version 1.1 - 01/11/93 COLD START Local Memory Found =01000000 (&33554432) MPU Clock Speed =33Mhz

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

```
Autoboot in progress... To abort hit <BREAK>
Booting from: VME167, Controller 0, Drive 0
Loading: Operating System


Volume: $00000000


IPL loaded at: $001F0000
VME Disk IPL Version 52.2
***
erase = DEL  kill = ^u  intr = ^c  quit = ^x
***
```

Note: The previous message indicates that the keys **{CONTROL} {C}** pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

```
---> The INSTALLATION UPGRADE process requires you to obtain or
     create a Customer Data Backup Tape from your previous Meridian
     MAX system.


     Please insert this backup tape into the internal cassette tape
     drive now.


     If you have no backup tape, or you wish to avoid installing the
     backup data, type "c" at the following prompt. This will change
     the INSTALLATION UPGRADE to a NEW INSTALLATION, and no data from
     your old system will be loaded onto the new system.
```

Note: If you are performing an application upgrade, the previous messages would display `APPLICATION UPGRADE` instead of `INSTALLATION UPGRADE`.

```
Is the backup tape inserted in the internal cassette tape drive
(y/n/c/q) ?
```

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

34	If you do not have a backup tape or you want to avoid installing your backup data, enter **c**, followed by **{RETURN}**. The following message appears.
	
	`***> Continuing as a NEW INSTALLATION...`
	
	Go to Step 35.
	
	If you want to install your backup tape, insert the tape into the tape drive and enter **y**, followed by **{RETURN}**. The following messages appear.
	
	`***> Checking for Meridian MAX Customer Data Backup Tape...`
	
	`***> Customer Data Backup Tape is correctly inserted.`
	
	`***> Continuing with the INSTALLATION UPGRADE...`
	
	Note: If you are performing an application upgrade, the previous message would display `APPLICATION UPGRADE` instead of `INSTALLATION UPGRADE`.

35	`167 SCSI configuration`
	
	`Device Addr Vers Revision Serial# Blocks Size Vendor Description`
	`------ ---- ---- -------- ------- ------- ---- ------------------`
	`Disk 00 0002 8770... ..... 2054325 0512 SEAGATE ST11200N`
	`Tape 40 0001 RV J... ..... 0000000 0000 TEAC MT-2ST/F50B`
	
	This configuration is only an example. Your system may differ.
	
	`Enter <CR> to pause in a single user shell before init.`

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
	Default boot sequence continuing... The system is coming up. Please wait. Node name set to MAX00. mount -f S51K /dev/usr /usr Checking for system dump... Expreserve notification performed. Downloading MVME332XT Line Disciplines. Error logging started. OSM Logging Started. ***> Configuring port devices... (TIME)

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
	***> Finished configuring port devices. (TIME) port_hold started. Transport Provider daemon started. Internet services provided. portmap started. Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started. Module ID = MAX00 MAX Configuration = 1 Module(s) ***> Setting up directories and file permissions... (TIME) If you switched your reinstallation or installation upgrade to a new installation, go to Step 39.

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
36	***> Extracting the MAX release number from tape... (TIME) ***> Extracting Previous Database Backup from tape... The extraction process will take approximately XXXX minutes. (where XXXX is the number of minutes determined by the system) ***> Finished extracting the backup data from tape. (TIME) ***> Checking the file delete chain and integrity of databases...(TIME) Database integrity checks can take from 5 to 15 minutes depending on the sizes of the databases... ***> Finished checking the databases. (TIME) ***> Beginning Phase I of Database Conversion to Meridian MAX 7... (TIME) If your backup tape was created while the system was shut down, go to Step 38.
37	***> The MAX 07.xx customer data tape was created while the MAX was running. Updating the database for data integrity...(TIME) This process will take between 30 and 60 minutes depending on the sizes of the databases.

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
	Backup Day Number = 8604 (Day Month Date Year) (where XXXX is the encoded date of the backup) update i_acddn (1 of 12) (TIME) update i_actvy (2 of 12) (TIME) update i_agent (3 of 12) (TIME) update i_cdn (4 of 12) (TIME) update i_cdntar (5 of 12) (TIME) update i_dnis (6 of 12) (TIME) update i_ovrflw (7 of 12) (TIME) update i_route (8 of 12) (TIME) update i_trunk (9 of 12) (TIME) update i_agent (10 of 12) (TIME) update fc_AUDIT (11 of 12) (TIME) update fcPARVAL (12 of 12) (TIME)
38	***> Converting Release 07.xx database to Release 7 database. (TIME) ***> Creating the SYSTEM database – please wait... (TIME) SYSTEM database created. Loading MAX 7 system data files... Extracting previous system data files... Loading more MAX 7 system data files... Data files loaded Go to Step 40.
39	***> Creating the SYSTEM database – please wait... (TIME) SYSTEM database created. Loading MAX 7 system data files... Loading data files for training mode... Data files loaded

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

40	The system displays the language options installed on your system. The language options listed below are provided as an example only. Your system language options may differ.
	
	`Your current language options are:`
	`Default: English`
	`Secondary: French`
	`Would you like to change your secondary language (y/n)?`

41	If the language options displayed by the system are correct and you do not want to change them, enter **n**, followed by **{RETURN}.** Go to Step 46. If the language options displayed by the system are not correct and you want to change them, enter **y**, followed by **{RETURN}.**

42	The system displays the available system secondary language options. For example:
	
	`Available system secondary language options:`
	`1. French`
	`2. Spanish`
	`3. German`
	`4. Japanese`
	`Please select the MAX secondary language by entering its number:`

43	Enter the number associated with the secondary language option you want to install, followed by **{RETURN}**. The system then displays the current system language options and the following message. `Are the language options correct (y/n)?`
44	If the language options displayed are not correct and you want to change them, enter **n**, followed by **{RETURN}**. Go to Step 42. If the language options displayed are correct, enter **y**, followed by **{RETURN}.**

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

45	If you switched the upgrade to a new installation, the last two messages in this step do not appear.
	
	`***> Creating USER LANGUAGE database – please wait... (TIME)`
	`USER LANGUAGE database created.`
	`Converting previous release User Language Database...`
	`Conversion completed.`
	
	If you switched the installation upgrade to a new installation, go to Step 47.

46	`<<<<< Finished Phase I of Database Conversion.`
	
	`>>>> Beginning Phase II of Database Conversion to Meridian MAX 7... (TIME)`
	`***> Converting Release 07.xx historical data database to Release 7 (TIME)`
	`***> Auditing the historical data database... (TIME)`

47	`Which customer number would you like this MAX site to use?`
	
	Enter the number between 0 and 99 (inclusive) that corresponds to the customer number assigned to your Meridian 1 switch, followed by **{RETURN}**.
	
	`Customer number changed to ##`
	
	(where ## is the customer number you entered)

48	The system displays the Meridian MAX Hardware and System Parameters screen. Refer to Procedure 10-1 in the "Meridian MAX system configuration" chapter for instructions on how to assign your system ports and Meridian MAX system configuration.
49	When you have completed the system capacity configuration screens, the system continues with the installation.

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
50	If you switched your reinstallation or installation upgrade to a new installation, go to Step 54. If you continued this procedure as a reinstallation or installation upgrade and chose to "*Exit without saving*" in the Capacity Configuration screens, go to Step 55. If you continued this procedure as an installation upgrade and saved changes you made to the Capacity Configuration screens, go to Step 51.
51	DATA database update starts. This process requires a scratch tape for temporary storage. Please insert a scratch tape into the tape drive. Make sure that the tape is not write-protected. The small LED on the front of the tape drive will light up and can stay lit from 20 seconds to 3 minutes, This is to allow time for the tape to rewind. (If you have inserted the tape backwards in the drive, the tape will be ejected immediately. Please re-insert it correctly.) Press ENTER when the LED is no longer lit.

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response

52	If you have inserted the scratch tape into the tape drive, and the tape drive light is off, press **{RETURN}**.
	
	The system continues.
	
	`Testing scratch tape...`
	`Tape test successful. Proceeding...`
	`Beginning of the reconfiguration of the MAX 7 database.`
	`This process will take approximately xx minutes to execute.`
	
	(where xx is the process time determined by the system)
	
	Note: Depending on what you changed in the system capacities screens, the system may display unloading and reloading messages.
	
	`End of DATA database update.`
	`Please remove the scratch tape from the tape drive.`

53	Remove the scratch tape from the tape drive. Go to Step 55.

54	`DATA database update starts.`
	`Creating the MAX 7 DATA database for training mode.`
	`This process takes approximately 5 minutes to execute.-`
	`End of DATA database update.`
	`Loading data files for training mode...`
	`Databases loaded.`
	
	`Setting the time to Thu Jun 22 12:00 1989 for Training mode.`

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
55	<<<< Finished Phase II of Database Conversion Loading System Language Strings... Loading System Language Strings completed. Starting MAX OSM Logger, Please Wait... OSM Logging Stopped. MAX OSM Logging Started. Meridian MAX release 07.xx If you switched to a new installation the following message appears. Meridian MAX Training Mode If you performed a installation upgrade, reinstallation or an application upgrade, the following message appears. Meridian MAX Precut Mode The system continues. Please login as precut for more details. The system is ready. Console Login:
56	Before logging in, ensure that the installation was successful. Review the Meridian MAX error log for any fatal messages. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, "View MAX Error Log" subsection for more information.

—continued—

Procedure 14-1 (continued)
Software reinstallation or upgrade to a Meridian MAX 7 SNN

Step	Installer's action and system's response
57	Ensure that the correct system options were enabled. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Options Display" subsection, for more information.
58	If the system was installed correctly, go to Step 59. If the system was not installed correctly, you must reinstall it. Ensure no errors occurred within the steps you want to skip. If you are unsure, restart the reinstallation from the beginning. If the errors persist, contact your Nortel distributor.
59	Insert a new blank tape into the tape drive for daily backups. Ensure that the write-protect tab on the blank cartridge tape is set to write-enabled to allow the system to write information on the tape (refer to Figure 11-1). The importance of backups is explained in the "Software installation overview" chapter, "Backups" section.
60	Log in as **precut.** If you completed an installation upgrade, reinstallation, or application upgrade, the Meridian MAX Precutover Mode screen appears. Refer to "Operating modes" chapter, "Switching from precutover mode to product mode" procedures for instructions on how to transfer your system from the precutover mode to the product mode. If you completed a new installation, the Meridian MAX Training Mode screen appears. Refer to "Operating modes" chapter, "Switching from training mode to precutover mode" procedures for instructions on how to transfer your system from training mode to precutover mode.

–end–

Software reinstallation or upgrade to a Meridian MAX - IPE 7

Use Procedure 14-2 if you want to perform one of the following procedures:

- Reinstallation: Reinstall your current Meridian MAX - IPE 7 system's software.

  Note: The system treats this procedure as an installation upgrade.

- Application Upgrade: Install new Meridian MAX - IPE software that upgrades the current system's applications.

After the system reboots (which follows the OS and application tape installation), you can follow one of two paths in this procedure.

Ensure that the proper hardware procedures have been completed before beginning this procedure.

If you do not have a backup tape or do not want to install your backup data onto the new system, you can switch the installation upgrade to a new installation. This alteration allows you to skip over the steps where the backup data tape is inserted and loaded onto the system.

If you want to load your backup data, continue the installation as an installation upgrade and follow the screen prompts and messages to load the backup tape.

To perform the following procedure, you need the Meridian MAX 7 Application tape and the Generic Operating System tape.

Procedure 14-2
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
1	Ensure that the SMM167 card has been configured correctly. Refer to the "Hardware installation: Intelligent Peripheral Equipment (IPE) module" chapter, "Hardware replacements" section, "Configuring the SMM167 card" subsection.
2	Login to your maintenance console as **maint**.
3	Before starting this procedure, create a back-up tape. Ensure the software on your current Meridian MAX system is shut down prior to creating the backup tape. If the backup tape is created while the system is running, the backup tape will not contain the current day's data. To shut down your Meridian MAX system, refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX options" section, "Shut down the system" subsection.
4	When the Meridian MAX system is shut down, choose option **b**, Backup and Restore Utilities, at the Meridian MAX Maintenance and Administration menu.
5	From the Backup and Restore Utilities submenu, choose option **b** again, *Backup Customer Data to Tape* to save the Meridian MAX 7 system's database to the tape. This ensures that all current Meridian MAX data is backed up. This procedure uses cassette tapes. Care must be taken to avoid damaging the tape as its fragility can result in tape errors during the installation procedure. Keep tapes away from excessive heat or electromagnetic radiation. Figures 11-1 and 11-2 show the correct method for inserting and locking a tape cassette into the tape drive. Make sure the arrow on the label points towards the drive, and that the notch in the cassette tape is pointing down. After the tape is inserted, rotate the tape drive latch clockwise until the latch handle is horizontal.
6	Shut down the software on your current Meridian MAX system. Follow the power-down procedure in the "Meridian MAX power-down procedure" chapter to power down the system. Perform any necessary hardware installation upgrades.
7	Make sure the power is turned off.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
8	Insert the Meridian MAX 7 Operating System tape.

9	Power up the module. Ensure that 20 seconds have elapsed since you powered off the module. The power button is located above the tape drive.
	
	The system displays the copyright and hardware configuration information. Your system messages may differ.
	
	`Copyright Motorola Inc. 1988 - 1993, All Rights Reserved.`
	`M4120 Debugger/Diagnostics Release Version 1.5 - 02/14/93`
	`COLD Start`
	
	`Local Memory Found =01000000 (&16777216)`
	
	`MPU Clock Speed =25Mhz`
	
	`Autoboot in progress... To abort hit <BREAK>`

10	Press **{BREAK}** to stop the hard disk load and begin the tape load.
	
	Note: {F5} on the VT520 and VT420 is equivalent to the {BREAK} key.
	
	`--Break Detected--`
	`4120-Bug>`

11	Wait for the tape to rewind. The tape drive light turns off when the tape is re-wound.
	
	At the previous prompt, enter **bo 0,40** followed by **{RETURN}**.
	
	`Booting from M4120, Controller 0, Drive 40`
	`Loading: Operating System`
	`Volume: V/68`

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

```
IPL loaded at: $001F0000
MVMETAPE IPL Version 1.0
```

There is a one- to two- minute delay before the system continues.

```
**********************************************************************
         System V/68 Release R3V7 M68040 Version 920526
                     Real mem    = 14680064
                     Avail mem   = 13271040
                     Buffers     = 60
**********************************************************************
Copyright (c) 1984-1992 Motorola Inc. All rights reserved.
INIT: SINGLE USER MODE
***
  erase = #   kill = @  intr = DEL  quit = ^|
***
```

Note: The previous message indicates that pressing the key that backspaces and deletes one character causes a system interruption which terminates the current process. The **{#}** key deletes and backspaces one character. If you press the delete/backspace key accidentally, press **{CONTROL}{D}** to reset the system.

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------ -----------
Disk    00   0001 M606...   .......   0352176 0512 FUJITSU  M2614S
Tape    40   0001 RV F...   .......   0000000 0000 TEAC      MT-2ST/N50
```

This configuration is only an example. Your system may differ.

```
Enter the correct date and time EST [mmddhhmmyy]:
```

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
12	Enter the correct date and time, followed by **{RETURN}**. The first pair of numbers represent the month, the second pair of numbers represent the day, the third pair of numbers represent the hour in the 24-hour time cycle, the fourth pair of numbers represent the minutes, and the last pair of numbers represent the last two digits of the year. For example, if 0423101593 is entered, the system asks you the following question: `Is the date Fri Apr 23 10:15:00 1993 EST correct? (y or n)`

13	If the date and/or time you entered is incorrect, enter **n**, followed by **{RETURN}**. The system then returns you to Step 12. If the date and time you entered are correct, enter **y**, followed by **{RETURN}**. The system continues.
	
	`***> From this point on, many system messages will be timestamped. (TIME)`
	
	`***`
	
	`New character settings: erase = DEL kill = ^u intr = ~ quit = ^x`
	
	`***`
	
	Note: The previous message indicates that pressing the **{~}** key causes a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

14	The system prompts you to enter your 20-character alphanumeric keycode followed by your SL-1 serial number. These characters are represented by the pound key (#) followed by **{RETURN}**.
	
	`Please enter the first four characters of the keycode, or 'q' to quit: ####`
	
	`Please enter the next four characters of the keycode, or 'q' to quit: ####`

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
	Please enter the next four characters of the keycode, or 'q' to quit: #### Please enter the next four characters of the keycode, or 'q' to quit: #### Please enter the last four characters of the keycode, or 'q' to quit: #### Please enter the SL-1 serial number that corresponds to this keycode, or 'q' to quit: ######
15	If the system is unable to decrypt the keycode, you are prompted to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure and prompts you to contact your Nortel service representative. If the keycode is decrypted successfully, the system continues with the following: The following options were encoded in the keycode that you entered. Please verify that the options are correct: Option Setting ------ ------- Serial Number : ###### Platform : IPE Number of Ports : 8 Max. Position IDs : 200 LAN Supervisor Sessions : 20 Configuration Control [CC]: ENABLED Formula Definition [FD]: ENABLED NAC Connectivity [NAC]: ENABLED MSL-1 NACD MIS [NACD]: ENABLED CCR/EAR MIS [CCR]: ENABLED Datastream Reporting [DSR]: ENABLED

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
	M1 Terminal Emulator [MTE]: ENABLED Multiple Queue Assgn. [MQA]: ENABLED MAX Status Interface [MSI]: DISABLED This configuration is an example. Your system options may differ. Note that for an IPE system, 19 LAN supervisor sessions are supported as well as one direct connection.
16	Are the options correct? (y/n) The system then prompts you to confirm your system configuration. If the options are incorrect, enter **n**. The system prompts you to reenter the keycode or abort the procedure. If the problem persists, the system aborts the procedure. Contact your Nortel service representative. If the system configuration is correct, enter **y**. The system continues.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

17	The system displays the hardware configuration. The following configuration is only an example. Your system configuration may differ.
	
	`MAX has detected that you are running the following hardware configuration:`
	
	`System : Meridian MAX 7 IPE`
	`CPU : 167 Card`
	`Memory : 16 MB`
	`Hard Disk : 180 MB (Fujitsu M2614S)`
	`Tape Drive : 155 MB (Teac MT-2ST/N50)`
	
	`If this configuration does not match your configuration, or if this configuration is not the configuration ordered, please type "n" to the following question. The installation will abort. Please call your service representative for further assistance.`
	
	Note: The Fujitsu M2614 M2637S 240-Mbyte hard disk drive is formatted as a 180-Mbyte drive by Meridian MAX.
	
	`---> Do you wish to install the hardware configuration specified above (y/n) ?`

18	If you want to abort the installation, enter **n**, followed by **{RETURN}**. If you want to install the hardware configuration, enter **y**, followed by **{RETURN}**.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

19	The system then displays a menu.
	
	If you are performing a reinstallation or installation upgrade, enter **2**, followed by **{RETURN}**.
	
	If you are performing an application upgrade, enter **3**, followed by **{RETURN}**.
	
	`The Meridian MAX Software Installation Menu`
	`----------`
	`1. New Installation`
	`2. Installation Upgrade`
	`3. Application Upgrade`
	`---> Enter a number to select the type of installation/upgrade desired, or enter q to quit :`

20	If you are performing a reinstallation or an installation upgrade, the system displays the following message. (The system views a reinstallation as an installation upgrade.)
	
	`Will perform an Installation Upgrade.`
	
	If you are performing an application upgrade, the system displays the following message.
	
	`***> Determining whether it is possible to perform an Application Upgrade...`
	`Will perform an Application Upgrade.`

21	The system continues. `---> Do you wish to restart a previously-aborted installation (y/n)?`
22	If you do not want to restart a previously aborted installation, enter **n**, followed by **{RETURN}**. Go to Step 24. If you want to restart a previously aborted installation, enter **y**, followed by **{RETURN}**. The system continues. `***> Determining whether the installation can be re-started...`

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

	The system then displays a menu.
	
	Note: Only those reentry points that have been verified by your system are shown in the Meridian MAX Installation/Upgrade Restart Menu.
	
	`The Meridian MAX Installation/Upgrade Restart Menu`
	
	`---`
	
	`Restart Meridian MAX Installation/Upgrade from one of the following stages:`
	
	`1 From the Beginning`
	
	`2 Just Before Copying OS Files to Hard Disk`
	
	`3 Just Before Copying MAX Application Files to Hard Disk`
	
	`4 Just Before Booting From Hard Disk`
	
	`--> Enter a number to select the point from which to install, or enter q to quit:`

23	If you want to quit, enter **q**, followed by **{RETURN}**. The system returns you to the Meridian MAX Software Installation Menu, where you can restart the installation.
	
	If you want to restart the installation from the beginning, enter **1**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade from the beginning.`
	
	If you want to restart the installation just before the OS files are copied to the hard disk, enter **2**, followed by **{RETURN}**. The system displays the following message:
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the OS files are about to be copied to the hard drive.`

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

	If you want to restart the installation just before the Meridian MAX application files are copied to the hard disk, enter **3**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the application files are about to be copied to the hard drive.`
	
	If you want to restart the installation just before the Meridian MAX system boots from the hard disk, enter **4**, followed by **{RETURN}**. The system displays the following message.
	
	`You have chosen to start the Meridian MAX install/upgrade at the point where the system is about to be booted from the hard disk for the first time.`

24	The system continues.
	
	`---> Will the MAX system be in Agent-ID mode or Position-ID mode? (MAX must be in the same mode as the Meridian 1/SL-1.)`
	
	`Please enter either 'a' or 'p' :`
	
	If your Meridian MAX system is in Agent-ID mode or has Multiple Queue Assignment (MQA) enabled, enter **a**, followed by **{RETURN}**. If the system is in Position-ID mode, enter **p**, followed by **{RETURN}**.
	
	Note: If your Meridian MAX has MQA enabled, ensure that your Meridian 1 is also in Agent-ID mode.
	
	The system continues with the following prompt.
	
	`Please verify that the Meridian 1/SL-1 is in the same mode as MAX.`
	
	`Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?`
	
	(where XXXXX is either Agent or Position, depending upon which you entered at the beginning of Step 24)

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

25	If the Meridian 1 is in the same mode as the Meridian MAX system, enter **y**, followed by **{RETURN}**.
	
	`WARNING: Meridian MAX installation/upgrade requires overwriting the hard disk. This means that FILES AND DATA ON THE DISK WILL BE DESTROYED.`
	
	`---> Do you wish to begin Meridian MAX installation (y, n, q ?) [q]:`

26	If you want to begin the installation, enter **y**, followed by **{RETURN}**. The system continues.
	
	`***> Beginning installation/upgrade (TIME)`
	
	`***> Checking tape in drive... (TIME)`
	
	If you chose not to restart a previously aborted installation or chose reentry point 1 in Step 23 (to restart the installation from the beginning), go to Step 27.
	
	If you chose reentry point 2 in Step 23 (to restart the installation just before copying the OS files to the hard disk), go to Step 28.
	
	If you are performing an application upgrade, or if you chose reentry point 3 in Step 23 (to restart the installation just before copying the application files to the hard disk) the system displays the following messages.
	
	`***> Mounting root file system as /root (TIME)`
	
	`***> Mounting the usr file system as /root/usr (TIME)`
	
	`***> Installing MAX-specific configuration files (TIME)`
	
	`***> Setting permissions on installation disk's root directory (TIME)`
	
	Go to Step 29.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

	If you chose reentry point 4 in Step 23 (to restart the installation just before booting from the hard disk for the first time), the system displays the following messages.
	
	`***> Mounting root file system as /root (TIME)`
	
	`***> Mounting the usr file system as /root/usr (TIME)`
	
	`The system has been reset to perform the installation again, starting from the first boot from the hard disk.`
	
	`Please perform the following steps:`
	
	`1. Remove the tape from the tape drive.`
	
	`2. Turn off the power for the module.`
	
	`3. Wait 20 seconds for the power to reset.`
	
	`4. Turn on the power for the module.`
	
	`**********`
	
	`Please reboot the system now.`
	
	`**********`
	
	Go to Step 33.

27	`**********`
	
	`*  *`
	
	`*  Stage 1 - Formatting Hard Drive and Creating Filesystems  *`
	
	`*  *`
	
	`**********`

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
	***> Formatting root file system's disk drive (TIME) This will take from 10 to 20 minutes... ***> Writing slice table to /dev/rdsk/m167_00s7 (TIME) ***> Creating the root file system (TIME) ***> Labeling the root file system (TIME) ***> Creating the swap file system (TIME) ***> Labeling the swap file system (TIME) ***> Creating the usr file system (TIME) ***> Labeling the usr file system (TIME) ***> Installing boot-loader on root file system's disk drive (TIME)
28	** * * Stage 2 – Copying OS Files to Hard Disk * * ** ***> Mounting root file system as /root (TIME)
	The following two messages only appear if no reentry point was used or if reentry point 1 was chosen. ***> Making the /tmp directory (TIME) ***> Making the /usr directory (TIME)

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
	***> Mounting the usr file system as /root/usr (TIME) ***> Copying files; this will take from 10 to 20 minutes depending upon your system configuration... (TIME) ***> Making the root file system lost+found directory (TIME) Reserving 128 entries ***> Making the usr file system lost+found directory (TIME) Reserving 704 entries The following message only appears if no reentry point was used or if reentry point 1 was chosen. ***> Installing /etc/badtracks/m167_00 bad spot list (TIME) ***> Creating sysadm(1M) package information file (TIME) ***> Setting up the new operating system (TIME) ***> Creating root and usr file system associated device nodes (TIME) ***> Installing MAX-specific configuration files (TIME) ***> Setting permissions on installation disk's root directory (TIME)
29	** * * * Stage 3 – Copying MAX Application Files to Hard Disk * * * ** Please remove the OS tape from the tape drive and put in the Meridian MAX Application Tape.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
30	Remove the OS tape from the tape drive and insert the application tape. Wait for the tape to rewind. The tape drive light turns off when the tape is rewound. `Did you insert the application tape in the tape drive (y/n) ?`

31	If you followed the instructions given in Step 30, and the tape drive light is off, enter **y**, followed by **{RETURN}**.
	
	The system continues.
	
	`***> Checking tape in drive... (TIME)`
	
	`***> Copying files; this will take from 10 to 20 minutes, depending upon your system configuration... (TIME)`

32	`**********`
	`*  *`
	`*  Stage 4 - Preparing to Reboot from Hard Disk  *`
	`*  *`
	`**********`
	
	`***> Unmounting all mounted file systems (TIME)`
	`***> Synchronizing the installation disk (TIME)`
	
	`**********`

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
	The Meridian MAX product has been installed on the hard disk. You may now remove the tape from the tape drive. * * * You must REBOOT the system and allow it to autoboot from the hard * * disk. Please power off the system now. * * * * Please allow 20 seconds between turning the power off and on again* * to allow the power to reset. * * * ********** **** REBOOT THE SYSTEM **** **********
33	After you turn off the power for the module, wait 20 seconds, and turn the power on again. The system automatically reboots. Your system messages may differ. Copyright Motorola Inc. 1988 - 1993, All Rights Reserved M4120 Debugger/Diagnostics Release Version 1.5 - 02/14/93 COLD START Local Memory Found =01000000 (&16777216)

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
	MPU Clock Speed =25Mhz Autoboot in progress... To abort hit <BREAK> Booting from: M4120, Controller 0, Drive 0 Loading: Operating System Volume: $00000000 IPL loaded at: $001F0000 VME Disk IPL Version 52.2 *** erase = DEL kill = ^u intr = ^c quit = ^x *** ***Note:*** The previous message indicates that the keys **{CONTROL} {C}** pressed simultaneously cause a system interruption which terminates the current process. The **{DEL}** key deletes and backspaces one character.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
	---> The INSTALLATION UPGRADE process requires you to obtain or create a Customer Data Backup Tape from your previous Meridian MAX system. Please insert this backup tape into the internal cassette tape drive now. If you have no backup tape, or you wish to avoid installing the backup data, type "c" at the following prompt. This will change the INSTALLATION UPGRADE to a NEW INSTALLATION, and no data from your old system will be loaded onto the new system. ***Note:*** If you are performing an application upgrade, the previous messages would display APPLICATION UPGRADE instead of INSTALLATION UPGRADE. Is the backup tape inserted in the internal cassette tape drive (y/n/c/q) ?
34	If you do not have a backup tape or you want to avoid installing your backup data, enter **c**, followed by **{RETURN}**. The following message appears. ***> Continuing as a NEW INSTALLATION... Go to Step 35. If you want to install your backup tape, insert the tape into the tape drive and enter **y**, followed by **{RETURN}**. The following messages appear. ***> Checking for Meridian MAX Customer Data Backup Tape... ***> Customer Data Backup Tape is correctly inserted. ***> Continuing with the INSTALLATION UPGRADE... ***Note:*** If you are performing an application upgrade, the previous message would display APPLICATION UPGRADE instead of INSTALLATION UPGRADE.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
35	167 SCSI configuration Device Addr Vers Revision Serial# Blocks Size Vendor Description ------ ---- ---- -------- ------- ------- ---- ------------------ Disk 00 0001 M606... ..... 0352176 0512 Fujitsu M2614S Tape 40 0001 RV F... ..... 0000000 0000 TEAC MT-2ST/N50 This configuration is only an example. Your system may differ. Enter <CR> to pause in a single user shell before init. Default boot sequence continuing... The system is coming up. Please wait. Node name set to MAX00 mount -f S51K /dev/usr /usr Checking for system dump... Expressive notification performed. Error logging started. OSM Logging Started. **> Configuring port devices... (TIME)

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
	***> Finished configuring port devices. (TIME) port-hold started Transport Provider daemon started. Internet services provided. portmap started. Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started. Module ID = MAX00 MAX Configuration = 1 Module(s) ***> Setting up directories and file permissions... (TIME) If you switched your installation upgrade to a new installation, go to Step 39. If you continued the installation upgrade, go to Step 36.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
36	***> Extracting the MAX release number from tape... (TIME) ***> Extracting Previous Database Backup from tape... The extraction process will take approximately XXXX minutes. (where XXXX is the number of minutes determined by the system) ***> Finished extracting the backup data from tape. (TIME) ***> Checking the file delete chain and integrity of databases... (TIME) Database integrity checks can take from 5 to 15 minutes depending on the size of the databases... ***> Finished checking the databases. (TIME) ***> Beginning Phase I of Database Conversion to Meridian MAX 7... (TIME) If your backup tape was created while the system was shut down, go to Step 38. If your backup tape was created while the system was running, go to Step 37.
37	***> The MAX 07.xx customer data tape was created while the MAX was running. Updating the database for data integrity...(TIME) This process will take between 30 and 60 minutes depending on the sizes of the databases.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
	Backup Day Number = XXXX (Day Month Date Year) (where XXXX is the encoded date of the backup) update i_acddn (1 of 12) (TIME) update i_actvy (2 of 12) (TIME) update i_agent (3 of 12) (TIME) update i_cdn (4 of 12) (TIME) update i_cdntar (5 of 12) (TIME) update i_dnis (6 of 12) (TIME) update i_ovrflw (7 of 12) (TIME) update i_route (8 of 12) (TIME) update i_trunk (9 of 12) (TIME) update i_agent (10 of 12) (TIME) update fc_AUDIT (11 of 12) (TIME) update fcPARVAL (12 of 12) (TIME)
38	***> Converting Release 07.xx database to Release 7 database. (TIME) ***> Creating the SYSTEM database – please wait... (TIME) SYSTEM database created. Loading MAX 7 system data files... Extracting previous system data files... Loading more MAX 7 system data files... Data files loaded Go to Step 40.
39	***> Creating the SYSTEM database – please wait... (TIME) SYSTEM database created. Loading MAX 7 system data files... Loading data files for training mode... Data files loaded

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

40	The system displays the language options installed on your system. The language options listed below are provided as an example only. Your system language options may differ.
	
	`Your current language options are:`
	`Default: English`
	`Secondary: French`
	`Would you like to change your secondary language (y/n)?`

41	If the language options displayed by the system are correct and you do not want to change them, enter **n**, followed by **{RETURN}**. Go to Step 45. If the language options displayed by the system are not correct and you want to change them, enter **y**, followed by **{RETURN}**.

42	The system displays the available system secondary language options. For example:
	
	`Available system secondary language options:`
	`1. French`
	`2. Spanish`
	`3. German`
	`4. Japanese`
	`Please select the MAX secondary language by entering its number:`

43	Enter the number associated with the secondary language option you want to install, followed by **{RETURN}**. The system then displays the current system language options and the following message. `Are the language options correct (y/n)?`
44	If the language options displayed are not correct and you want to change them, enter **n**, followed by **{RETURN}**. Go to Step 42. If the language options displayed are correct, enter **y**, followed by **{RETURN}**.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

45	`<<<<< Finished Phase I of Database Conversion.`
	
	`>>>> Beginning Phase II of Database Conversion to Meridian MAX 7... (TIME)`
	`***> Converting Release 07.xx historical data database to Release 7 (TIME)`
	`***> Auditing the historical data database... (TIME)`
	`Which customer number would you like this MAX site to use?`

46	Enter the number between 0 and 99 (inclusive) that corresponds to the customer number assigned to your Meridian 1 switch, followed by **{RETURN}**. `Customer number changed to ##` (where ## is the customer number you entered)
47	The system displays the Meridian MAX Hardware and System Parameters screen. Refer to Procedure 10-1 in the "Meridian MAX system configuration" chapter for instructions on how to assign your system ports and Meridian MAX system configuration.
48	When you have completed the system capacity configuration screens, the system continues with the installation.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
49	If you switched your reinstallation, installation upgrade, or application upgrade to a new installation, go to Step 53. If you continued this procedure as a reinstallation, installation or application upgrade, and chose "*Exit without saving*" in the Capacity Configuration screens, go to Step 54. If you continued this procedure as a reinstallation, installation or application upgrade and saved changes you made to the Capacity Configuration screens, go to Step 50.
50	DATA database update starts. This process requires a scratch tape for temporary storage. Please insert a scratch tape into the tape drive and turn the tape drive handle clockwise to lock the drive door. Make sure that the tape is not write-protected. The small LED on the front of the tape drive will light up and can sats lit from 20 seconds to 3 minutes. This is to allow time for the tape to rewind. (If the LED is flashing continuously, then you have inserted the tape backwards in the drive. Remove the tape and re-insert it correctly.) Press ENTER when the LED is no longer lit.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response

51	If you have inserted the scratch tape into the tape drive, and the tape drive light is off, press **{RETURN}**. The system continues.
	`Testing scratch tape...`
	`Tape test successful. Proceeding...`
	`Beginning of the reconfiguration of the MAX 7 database.`
	`This process will take approximately xx minutes to execute.`
	(where xx is the process time determined by the system)
	Note: Depending on what you changed in the system capacities screens, the system may display unloading and reloading messages.
	`End of DATA database update.`
	`Please remove the scratch tape from the tape drive.`

52	Remove the scratch tape from the tape drive. Go to Step 54.

53	`DATA database update starts.`
	`Creating the MAX 7 DATA database for training mode.`
	`This process takes approximately 5 minutes to execute.`
	`Creating a new database... (TIME)`
	`End of DATA database update.`
	`Loading data files for training mode...`
	`Databases loaded.`
	`Setting the time to Thu Jun 22 12:00 1989 for Training mode.`

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
54	<<<< Finished Phase II of Database Conversion Loading System Language Strings... Loading System Language Strings completed. Starting MAX OSM Logger, Please Wait... OSM Logging Stopped. MAX OSM Logging Started. Meridian MAX release 07.xx If you switched to a new installation, the following message appears. Meridian MAX Training Mode If you completed a reinstallation, installation upgrade, or application upgrade, the following message appears. Meridian MAX Precut Mode The system continues. Please login as precut for more details. The system is ready. Console Login:
55	Before logging in, ensure that the installation was successful. Review the Meridian MAX error log for any fatal messages. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "Diagnostics" section, "View MAX Error Log" subsection, for more information.

—continued—

Procedure 14-2 (continued)
Software reinstallation or upgrade to a Meridian MAX - IPE 7

Step	Installer's action and system's response
56	Ensure that the correct system options were enabled. Log in as **maint** and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Options Display" subsection, for more information.
57	If the system was installed correctly, go to Step 58. If the system was not installed correctly, you must reinstall it. Ensure no errors occurred within the steps you want to skip. If you are unsure, restart the reinstallation from the beginning. If the errors persist, contact your Nortel distributor.
58	Insert a new blank tape into the tape drive for daily backups. Ensure that the write-protect tab on the blank cartridge tape is set to write-enabled to allow the system to write information on the tape (refer to Figure 11-2). The importance of backups is explained in the "Software installation overview" chapter, "Backups" section.
59	If you completed a reinstallation, installation upgrade, or application upgrade, log in as **precut** to view the Meridian MAX Precutover Mode screen. Refer to "Operating modes" chapter, "Switching from precutover mode to product mode" procedures, for instructions to switch from precutover mode to product mode. If you completed a new installation, log in as **precut** to view the Meridian MAX Training Mode screen. Refer to "Operating modes" chapter, "Switching from training mode to precutover mode" procedures, for instructions to switch from training mode to precutover mode.

–end–

Chapter 15: Workstation, HSL, and LML configuration

For every Meridian MAX system, a workstation and High-Speed Link must be configured. A Load Management Link must be configured if your system has Configuration Control enabled.

Single Terminal Access (STA), provides integrated access to operation, administration and maintenance (OA&M) functions for the systems it monitors. One terminal allows you to access the Meridian 1 and up to three other applications, including Meridian MAX.

Table 15-1 lists the workstation, High-Speed Link, and Load Management Link configuration procedures in this chapter.

Table 15-1
Configuration procedures

Workstation configuration	Procedure 15-1
Configuring the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)	Procedure 15-2
Configuring the High-Speed Link on the Meridian 1	Procedure 15-3
Configuring the Load Management Link on the Meridian 1	Procedure 15-4
Configuring the High-Speed Link on the Option 11	Procedure 15-5
Configuring the Load Management Link on the Option 11	Procedure 15-6

Workstation configuration

Refer to the "Workstations" chapter, for more details on the two types of supported workstations: VDTs and PCs.

Refer to the "Workstations" chapter, "Personal computer workstations" section, for instructions on how to install MTE using DOS or Windows and Reflection 4+.

If you are using a workstation that was not previously configured, perform Procedure 15-1.

Procedure 15-1
To configure the workstation

Step	Installer's action and system's response
1	If you have set up your PC workstation as in the "Workstations" chapter, "Personal computer workstations" section, and Reflection 4+ or the Meridian MAX Terminal Emulator is loaded on your PC, press **{CONTROL}{T}** to begin the procedure. If you are using a supervisor dial-up, the following prompt appears: `REMINDER: If you have invoked this feature to change your terminal configuration during an active supervisor dial-up session, your new selection will NOT take effect. To change the terminal configuration during an active dial-up session, you must log off and dial-up again to select the new configuration.`  `If you are dialing in for the first time, however, you may freely select your terminal configuration now and it will be properly activated for this dial-up session.`  `Please press <ENTER> to continue...`

—continued—

Procedure 15-1 (continued)
To configure the workstation

Step	Installer's action and system's response
2	Press **{RETURN}**.

3	The system continues.
	
	`The terminal type for this port is unknown.`
	`Please choose a terminal type from the following list:`
	`1. DEC vt220 monochrome and compatibles`
	`2. DEC vt420 monochrome and compatibles`
	`3. PC running Reflection 4-PLUS terminal emulation`
	`4. PC running Meridian Terminal Emulator`
	`Selection -->`
	
	Specify the type of terminal you are using. If you are using a VT220 workstation, select **1**. If you are using a VT520 or VT420 workstation, then select **2**. If you are using a PC workstation running Reflection 4+, enter **3** and go to Step 5. If you are using a PC running the Meridian Terminal Emulator, enter **4**, and go to Step 14.

—continued—

Procedure 15-1 (continued)
To configure the workstation

Step	Installer's action and system's response

4	If you selected a VT220, VT420, or a VT520 as your terminal type, a menu listing the keyboard types appears. Enter the number that corresponds to your keyboard type, followed by **{RETURN}**.
	
	`Select your keyboard type from the following list:`
	
	`>>>1. North American Keyboard`
	`2. United Kingdom Keyboard`
	`3. Flemish Keyboard`
	`4 Canadian French Keyboard`
	`5 Danish Keyboard`
	`6. Finnish Keyboard`
	`7. German Keyboard`
	`8 Dutch Keyboard`
	`9. Italian Keyboard`
	`10. Swiss French Keyboard`
	`11. Swiss German Keyboard`
	`12. Swedish Keyboard`
	`13. Norwegian Keyboard`
	`14. French/Belgian Keyboard`
	`15. Spanish Keyboard`
	`16. Portuguese Keyboard`
	
	`Selection -->`
	
	Go to Step 19.

5	If your workstation is a PC running Reflection 4+, the system continues with the following prompt:
	
	`Select your keyboard type from the following list:`
	
	`1. AT style keyboard (10 function keys on left)`
	`>>> 2. Enhanced keyboard (12 function keys along top)`
	
	`Selection -->`
	
	Specify the type of keyboard you are using.

—continued—

Procedure 15-1 (continued)
To configure the workstation

Step	Installer's action and system's response

6	The system then asks you to choose a color scheme with the following prompt:
	
	`Select the desired color scheme from the following list:`
	
	`>>> 1. Color -- black background`
	`    2. Color -- blue background`
	
	`Selection -->`

7	Specify the color scheme you want. The following prompt then appears:
	
	`About to start transfer of an appropriate Reflection`
	`4-PLUS configuration file from Meridian MAX to your PC...`
	
	`The transfer should take approximately 15 - 30 seconds.`
	
	`Please press <ENTER> to begin...`

8	Press **{RETURN}** to begin transferring the appropriate Reflection 4+ terminal configuration file from Meridian MAX to your workstation.

9	If the transfer of the configuration is successful, the system displays the following prompts. If the transfer of the configuration is unsuccessful, go to Step 12.
	
	`Transfer of configuration file was successful.`
	`From now on, use the following command when starting Reflection:`
	
	`R4 MERIDIAN.CFG`
	
	`If there are any key labels currently displayed at the bottom`
	`of the screen, please press <Ctrl>+<Alt>+N to clear them.`

10	If there are no function key descriptions on the screen then ignore this message. If the bottom screen portion shows the function key descriptions, then press **{CONTROL}{ALT}{N}** simultaneously. This action clears the descriptions from the screen. `Please press <ENTER> to continue...`
11	Press **{RETURN}** to complete the workstation's configuration. At the end of the process, the system displays the Supervisor Logon screen. Go to Step 19.

—continued—

Procedure 15-1 (continued)
To configure the workstation

Step	Installer's action and system's response

12	The system displays the following prompt for an unsuccessful file transfer:
	
	`!!! Transfer of configuration file failed. !!!`
	
	`Select an action from the following list:`
	
	`>>> 1. Retry the transfer operation`
	`2. Ignore the failure (a configuration file is available)`
	`3. Select a different terminal type`
	`4. NAC Remote Supervisor Login (a configuration file is available)`
	
	`Selection -->`

13	If you enter **1**, the system takes you to prompts shown for Step 7, after which successive steps follow. Select **2** if meridian.cfg file is already on the PC workstation, then go to Step 19. If you select **3**, return to prompts shown in Step 1, after which the successive steps follow. Select **4** if you are using the NAC Remote Login feature, then go to Step 19.
14	If your workstation is a PC running MTE using DOS, press both left and right **{SHIFT}** keys simultaneously to access the terminal emulator configuration setup screen. If your workstation is a PC running MTE 6 using Windows, refer to the Meridian Terminal Emulator 6 User Guide (P0815602), "Setting session options" section to access the session option screen. If your workstation is a PC running MTE 7 using Windows, refer to the Meridian Terminal Emulator 7 User Guide (P0821303), "Setting session options" section to access the session option screen. You can also use the MTE 7 online help for instructions on setting your session options. The Communication and Printer Port Parameters Configuration screen appears.

—continued—

Procedure 15-1 (continued)
To configure the workstation

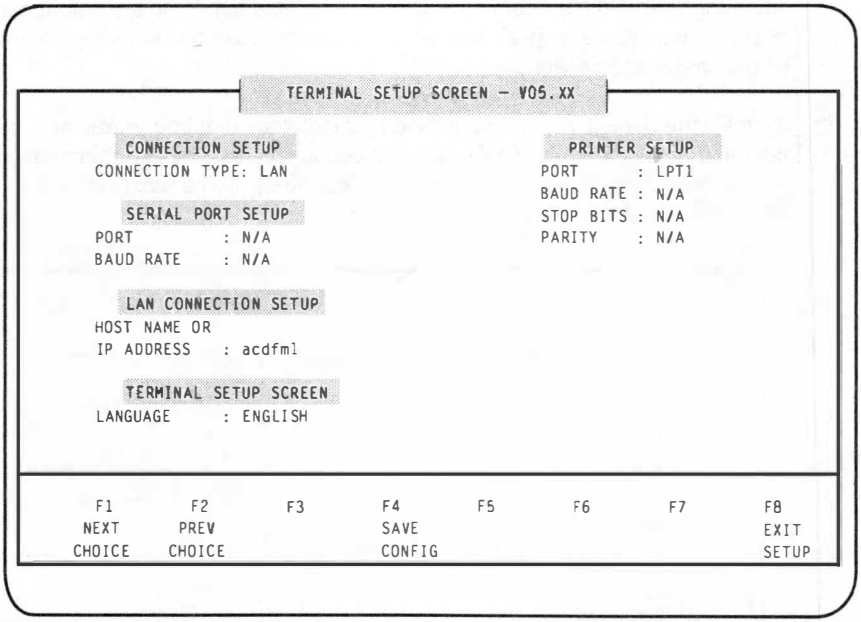
Step	Installer's action and system's response
15	The selection chosen for the *Connection Type* field determines the accessibility of the *Serial Port Setup* and *LAN Connection Setup* fields. To change this field, cursor to the *Connection Type* field past the colon, and press **{F1}** for next choice or **{F2}** for previous choice. These two keys toggle between the LAN and Serial selections. Serial is the default value for this field and indicates that your terminal is directly connected to your Meridian MAX system. If you select Serial as your connection type, your screen looks like the following sample screen. Some differences may occur, depending on your selections.

```
                TERMINAL SETUP SCREEN - V05.XX

  CONNECTION SETUP                          PRINTER SETUP
CONNECTION TYPE: SERIAL                   PORT      : LPT1
                                          BAUD RATE : 9600
  SERIAL PORT SETUP                       STOP BITS : 1
PORT          : COM1                      PARITY    : NONE
BAUD RATE     : 9600

  LAN CONNECTION SETUP
HOST NAME OR
IP ADDRESS    : N/A

  TERMINAL SETUP SCREEN
LANGUAGE      : ENGLISH


  F1        F2        F3        F4        F5        F6        F7        F8
 NEXT      PREV                SAVE                                    EXIT
CHOICE    CHOICE              CONFIG                                  SETUP
```

—continued—

Procedure 15-1 (continued)
To configure the workstation

Step	Installer's action and system's response
	If you select LAN as your connection type, your screen looks like the following sample screen. Some differences may occur depending on your selections.



—continued—

Procedure 15-1 (continued)
To configure the workstation

Step	Installer's action and system's response
16	The communication port parameters that can be set are listed in this step. Options shown in bold italics are the default settings. These fields are only available when the connection type is set to Serial. ***Note:*** The baud rate setting should not be changed from the default, unless you are using a dial-up connection. This parameter is used by the Meridian MAX system to communicate with the supervisor displays. Parameter — Options Port: — ***COM1***, COM2 Baud Rate: — 2400, 4800, ***9600*** The *Host Name or IP Address* field is only available when the connection type is set to LAN. This entry is either the name given to the MAX or the address of the MAX on the LAN. To edit this field, cursor to it and press the **{F3}** key. Press it again when you are done entering the Host Name or the IP Address. The {F1} and {F2} keys disappear when you cursor to this field.
17	The printer port parameters that can be set are listed in this step. Options shown in bold italics are the default settings. The *Baud Rate*, *Stop Bits*, and *Parity* fields are only available when the *Port* field is set to COM1 or COM2. Parameter — Options Port: — ***LPT1***, LPT2, LPT3, COM1, COM2 Baud Rate: — 2400, 4800, 9600 (serial printers only) Stop Bits: — 1, 2 (serial printers only) Parity: — NONE, EVEN, ODD (serial printers only)
18	To save the changes made to the default configuration, press the **[SAVE CONFIG]** function key. A file named MTE.CFG is created in the current directory.

—continued—

Procedure 15-1 (continued)
To configure the workstation

Step	Installer's action and system's response
	Each time the MTE program is started, it looks for this file in the current directory. If it is found, the information stored there is used as the starting configuration. If this file is not found, or the format of the file is incorrect, the default configuration (as seen in steps 16 and 17) is used. To start MTE, change the DOS directory to the one in which you installed the MTE software. For example, CD C:\MERIDIAN. Enter **MTE** followed by **{RETURN}**.
19	The Supervisor Login screen appears. For instructions on setting up your VT220, VT420, VT520, or HP workstation, refer to the "Workstations" chapter.
20	To exit MTE, simultaneously press **{CONTROL}{ALT}{X}**. This key combination returns control to DOS. To exit Reflection 4+, log out from Meridian MAX. Wait until the login screen is completely redrawn. Enter **{CONTROL}{ALT}{X}**. The DOS prompt appears.

—end—

If you wish to reconfigure your terminal while Meridian MAX is running, press **{CONTROL}{T}** simultaneously at anytime to display the configuration prompt. If your terminal selection remains unchanged, you are returned to the Meridian MAX feature you were using prior to reconfiguring the workstation. If your terminal selection is changed during Procedure 15-1, you are logged out, and the Supervisor Login screen appears.

> ***Note:*** If you are running your display session from a supervisor dial-up connection, pressing **{CONTROL}{T}** does not change your terminal configuration. If you want to reconfigure the terminal for your dial-up session, you must log off, hang up the connection and dial back in again. When you reconnect, the configuration prompt is displayed and the new terminal configuration you choose takes effect.

Configuring the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access

Single Terminal Access (STA), available with X11 Release 19 and greater, provides integrated access to operation, administration, and maintenance (OA&M) functions for the systems it monitors. By reducing the number of physical devices needed to administer a Meridian 1 system and its subsystems, one terminal allows you to access the Meridian 1 and up to three other applications including Meridian MAX.

To configure the Multi-purpose Serial Data Link card (MSDL) for use with Single Terminal Access (STA) on the Meridian 1, follow the steps in Procedure 15-2.

Before configuring your MSDL card on the Meridian 1 for use with STA, the following criteria must be met:

- Switch settings on the MSDL card must be correct for Meridian MAX as well as other applications using STA.
- Port 0 on the MSDL card must be available for the configuration of an STA administration terminal which acts like a switchboard between the multiple applications.
- At least two ports must be available to configure your STA administration terminal as well as Meridian MAX on your MSDL card.

Procedure 15-2
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)

Step	Action
1	If there are no MSDL cards installed on your current system, refer to the *Circuit Card Installation and Testing Guide* (NTP 553-3001-211) for information on installing MSDL circuit cards. If MSDL cards are already installed on your current system, continue with this procedure.

—continued—

Procedure 15-2 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)

Step	Action
2	Configure the MSDL card using the Meridian 1 maintenance terminal. Use the document *X11 System Management Applications Guide* (NTP 553-3001-301) and the following guidelines. For prompts not listed, press {ENTER} to select the default value. ***Note:*** Ensure "Caps Lock" on your keyboard is set to "on". Enter **LD 22** to access Overlay program 22 to verify that MSDL (222), MSDL SDI (227), and STA (228) software is loaded on your system. The system displays the following prompt: REQ
3	Enter **PRT** to access the program's print function. The system displays the following prompt: TYPE
4	Enter **PKG** to print the X11 software packages equipped on the Meridian 1. If these packages are not equipped on your system, contact your distributor. The system displays the following prompt: REQ
5	Enter ******** to exit Overlay program 22.
6	Check your system for an existing MSDL card that can be used for STA. Having an MSDL card with several free ports would allow you optimum use of the STA feature. Verify that the switch settings of the MSDL card number (DNUM) do not conflict with other I/O devices and that all DIP switch settings are set correctly for RS-232. Refer to the *Circuit Card Installation and Testing Guide* (NTP 553-3001-211) for information on MSDL switch settings.
7	Setup a VT220 or 100% compatible terminal for STA. The setup parameters vary depending on terminal type. Refer to the *X11 System Management Applications Guide* (NTP 553-3001-301) for the correct setup parameters for your terminal.

—continued—

Procedure 15-2 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)

Step	Action
8	Connect an NTND27 cable to Port 0 on the MSDL card. Use a 25-pin straight-through cable to connect the NTND27 cable to the VT220 used for the STA administration terminal.
9	To create a link between the STA administration terminal and Meridian MAX, connect an NTND27 cable to one of the other selected ports on the same MSDL card. For a Meridian MAX SNN or SEE system, connect a null modem adapter between this cable and the NT7D61Ax cable which runs to the Meridian MAX AM's I/O panel (J7 on the I/O subpanel or SYS CONS on the Universal or Generic I/O panel). For a Meridian MAX - IPE system, connect a null modem adapter between this cable and the NT1R03Dx or NT7D58Ax cable which runs to Port 1 on the Meridian MAX - IPE.
10	Enter **LD 17** to access Overlay program 17 to configure a TTY on the MSDL SDI. The system displays the following prompt: REQ
11	Enter **CHG** to change the current configuration on the MSDL card. The system displays the following prompt: TYPE
12	Enter **CFN** to access the configuration record. The system displays the following prompt: ADAN
13	Enter **NEW TTY xx** to add an MSDL TTY port. The device number is represented by xx. The system displays the following prompt: CTYP

—continued—

Procedure 15-2 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)

Step	Action
14	Enter **MSDL** to specify the card type. If you have an option 81 system continue with this procedure. If you do not, go to Step 16. The system displays the following prompt: GRP
15	Enter **0** to specify the network group number for option 81 systems.
16	The system displays the following prompt: DNUM
17	Enter **xx** to add an MSDL TTY port. The xx represents the device number of the I/O ports. The system displays the following prompt: PORT
18	Enter **0** to specify the port as Port 0. The system displays the following prompt: DES
19	Enter **STA_ADMIN** to designate Port 0 for the STA administration terminal. The system displays the following prompt: BPS
20	Enter **9600** to set the baud rate. The system displays the following prompt: PARY

—continued—

Procedure 15-2 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)

Step	Action
21	Enter **NONE** to set the parity type. The system displays the following prompt: STOP
22	Enter **1** to set the number of stop bits. The system displays the following prompt: BITL
23	Enter **8** to set the data bit length. The system displays the following prompt: PARM
24	Enter **R232 DCE** to set the interface and transmission mode. The system displays the following prompt: FUNC
25	Enter **ABD FCL LME** to set the MSDL card functions. The system displays the following prompt: USER
26	Enter **MTC SCH BUG** to set the output message types. The system displays the following prompt: XSM
27	Enter **NO** to set the SDI port for the system monitor. The system displays the following prompt: TTYLOG

—continued—

Procedure 15-2 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)

Step	Action
28	Enter **{RETURN}** to set the log buffer size.
29	Enter ******** to exit Overlay program 17.
30	Enter **LD 22** to access Overlay program 22 to verify the configuration changes made in Overlay program 17.
31	Enter **LD 48** to access Overlay program 48 to verify that the MSDL is enabled.
32	Enter **STAT MSDL xx** to verify the MSDL port is enabled. The device number is represented by xx.
33	Enter ******** to exit Overlay program 48. The TTY just created must be in a disabled state. If the TTY needs to be disabled, continue with this procedure. If the TTY is already disabled, go to Step 38.
34	Enter **LD 37** to access Overlay program 37 to disable the TTY port.
35	Enter **DIS TTY xx**. The available TTY is represented by xx. The system displays the following prompt: xx TTY (Y/N)
36	Enter **Y** to disable the TTY.
37	Enter ******** to exit Overlay program 37.
38	Enter **LD 17** to access Overlay program 17 to configure the TTY port as the STA administration port as well as set up additional ports for system monitors. The system displays the following prompt: REQ
39	Enter **CHG** to change the current configuration on the MSDL card. The system displays the following prompt: TYPE

—continued—

Procedure 15-2 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)

Step	Action
40	Enter **CFN** to access the configuration record. The system displays the following prompt: ADAN
41	Enter **NEW STA xx** to add an MSDL TTY port. The device number is represented by xx. The system displays the following prompt: TTY
42	Enter **xx** to specify the number of the pre-defined MSDL SDI TTY from Step 41. If you have an option 81 system, the system displays the following prompts: CTYP MSDL GRP Go to Step 43. If you have a system other than an option 81, the system displays the following prompts: CTYP MSDL DNUM Go to Step 44.
43	Enter **0** to specify the network group number for option 81 systems. The system displays the following prompts where the device number is represented by xx: DNUM xx ADMIN PORT 0 LANGUAGE ENGLISH ADDITIONAL PORT

—continued—

Procedure 15-2 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)

Step	Action
44	Enter the MSDL port number you have designated to connect to Meridian MAX. This entry could be either P1, P2, or P3 depending on the selected MSDL port. If you need to delete one of the additional ports you have added, place an x before the port number such as XP2.
45	Enter ******** to exit Overlay program 17.
46	Enter **LD 22** to access Overlay program 22 to verify the configuration changes made in Overlay program 17.
47	Enter **LD 48** to access Overlay program 48 to enable the STA port.
48	Enter **ENL STA xx** to enable the STA port. The device number is represented by xx.
49	Enter **STAT STA xx** to verify the MSDL port is enabled. The device number is represented by xx.
50	Enter ******** to exit Overlay program 48.
51	At this point, the STA main menu appears on your STA administration terminal screen. If the screen does not appear immediately, press **{RETURN}** several times and the screen should appear.
52	Press **{PF7}** at the STA main menu, to change the port configuration. You are prompted to enter a port number. Enter the port number of the MSDL port you cabled to the Meridian MAX system console port in Step 9.
53	At the login prompt, enter your name. For a password, enter the Meridian 1 password.

—continued—

Procedure 15-2 (continued)
To configure the Meridian 1 NT6D80 MSDL card for use with Single Terminal Access (STA)

Step	Action
54	Use the up/down arrow keys to move from field to field and the left/right arrow keys to select the entry. Your completed port configuration should match the following: Port Type — System Port Name — MAX Baud Rate — 9600 Data Bits — 8 Stop Bits — 1 Interface — RS232 DCE Emulation — EM100 (VT100) Connect Sequence — CTRL-R (read the directions under the function keys on how to enter this information) Logout Seq
55	Press **{PF7}** to proceed to the *"Port Maintenance Menu"*.
56	Select *"Enable port"* using the up/down arrow keys, and press **{RETURN}** to enable the Meridian MAX system port.
57	STA is now available to monitor Meridian MAX as well as the Meridian 1. On the STA main menu, there is a function key assigned to the Meridian MAX and Meridian 1. To access Meridian MAX, press the assigned function key and press **{RETURN}** several times to get a response. Press {ESC} and then type STA to return to the STA main menu from Meridian MAX. Press {CNTRL}{R} to refresh the screen when needed.

—end—

Configuring the High-Speed Link on the Meridian 1

To configure the High-Speed Link on the Meridian 1, follow the steps in Procedure 15-3.

Procedure 15-3
To configure the High-Speed Link on the Meridian 1

Step	Action
1	Check the options on the Serial Data Interface (SDI) circuit pack. Follow the instructions in the document *Circuit Card Installation and Testing* (NTP 553-3001-211) for the type of SDI circuit pack being used. Check the High-Speed Link cable. If the Meridian 1 High-Speed Link port is configured as DCE, use the NT7D99AA null modem cable. If it is configured as DTE, use the NT7D61 or the NT7D58 straight cable. Refer to the "Hardware installation: Application Module" chapter for more information. If your Meridian 1 switch is running X11 Release 18 or lower, the Meridian MAX port needs to be set for the following: Port Address: **x** Enter a value for **x**. The range is 0 to 15.
2	Interface: **xxx** The SDI port should be configured as a DTE (Data Terminal Equipment) device. Since the High-Speed Link port on the Meridian MAX is configured as a DCE (Data Communications Equipment) device, you only need a straight through RS-232 connection between the SDI port and the Meridian MAX port. Arrange the port for a modem interface (DTE to DCE).
3	Data Transfer Rate: Enter **9600** baud as the data transfer rate (baud rate). If your Meridian 1 switch is running X11 Release 18, go to Step 16.

—continued—

Procedure 15-3 (continued)
To configure the High-Speed Link on the Meridian 1

Step	Action
4	Configure the Meridian 1 database for Meridian MAX. Use document *X11 Features and Service* (NTP 553-3001-305) and the following guidelines. For prompts not listed, press {ENTER} to select the default value. In the configuration data block (Overlay program 17), define the following values. REQ **CHG** TYPE **CFN** CFN is the configuration record. IOTB **YES** The IOTB prompt appears only in X11 releases prior to Release 18. ADAN **aaa TTY x** The address **x** must be the same as the physical address set on the SDI circuit pack. The value for **aaa** must be NEW or CHG (for example, NEW TTY 2). ESDI **NO** CDNO **x** **x** is the SDI card number. The range for **x** is 0 to 15. DENS **xxxx** DENS refers to the density of the SDI card being used. SDEN is a single-density SDI card (for example, QPC139) , DDEN is a double density SDI card (for example, QPC841), and 4DEN is a quad density SDI card (for example, NT8D41). For more information, see the *X11 Input/Output Guide* (NTP 553-3001-400).
5	USER **HSL** Configure the user as HIGH-SPEED LINK (HSL).
6	MGCR **xx** **xx** is the number of call registers to be used for Meridian MAX. The range for **xx** is 26 to 255. ***Note:*** Also in Overlay 17, the value of NCR (system call registers) must be increased by the amount set for MGCR.

—continued—

Procedure 15-3 (continued)
To configure the High-Speed Link on the Meridian 1

Step	Action
7	DCUS **x** **x** is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer.
8	MAGT **x** **x** is the number of agents that can be assigned on the Meridian 1. The range is 1 to 1200.
9	Install the link. Refer to the document *System Options 21, 51, 61, 71 System Installation Procedures* (NTP 553-3001-210) for installation instructions.
10	If your system is a Meridian MAX - IPE 7 system, connect one end of the High-Speed Link cable to Cable B, Port 8 on the Meridian MAX - IPE, and the other end to the SDI card. If your system is a Meridian MAX 7 SNN system, connect one end of the High-Speed Link cable to Cable A, Port 1 on the Meridian MAX, and the other end to the SDI card.
11	Load Overlay program 48. Enter **LD 48**
12	Enable the TTY port assigned to the High-Speed Link. Enter **ENL SDI HIGH**
13	Enable the High-Speed Link. Enter **ENL HSL**
14	Check the status of the High-Speed Link. Enter **STAT HSL** NRDY should be the system response. Immediately log out of the Overlay and TTY or the link will not come up. When the link is up, the TTY will display ADD000.
15	You have configured the High-Speed Link.

—continued—

Procedure 15-3 (continued)
To configure the High-Speed Link on the Meridian 1

Step	Action
16	If your Meridian 1 switch is running X11 Release 18, configure the Meridian 1 database for Meridian MAX. Use document *X11 Features and Service* (NTP 553-3001-305) and the following guidelines. For prompts not listed, press {ENTER} to select the default value. In the configuration data block (Overlay program 17), define the following values. REQ **CHG** TYPE **CFN** CFN is the configuration record.
17	ADAN **aaa TTY x** The address **x** must be the same as the physical address set on the SDI circuit pack. The value for **aaa** must be NEW or CHG (for example, NEW TTY 2).
18	CTYP **xxxx** **xxxx** is the SDI card number. The possible values for **x** are SDI, SDI2, SDI4, and XSDI.
19	DNUM **x** DNUM is the device number printed automatically. The range for **x** is 0 to 15.
20	USER **HSL** Configure the user as HIGH-SPEED LINK (HSL).
21	MGCR **xx** **xx** is the number of call registers to be used for Meridian MAX. The range for **xx** is 26 to 255. ***Note:*** Also in Overlay 17, the value of NCR (system call registers) must be increased by the amount set for MGCR.
22	DCUS **x** **x** is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer.
23	MAGT **x** **x** is the number of agents that can be assigned on the Meridian 1. The range is 1 to 1200. Increments of 10 are preferred, such as 10, 20, 30, etc.
24	You have configured the High-Speed Link.

—end—

Configuring the Load Management Link on the Meridian 1

To configure the Load Management Link on the Meridian 1, follow the steps in Procedure 15-4.

Procedure 15-4
To configure the Load Management Link on the Meridian 1

Step	Action
1	Check the options on the Serial Data Interface (SDI) circuit pack. Follow the instructions in *Circuit Card Installation and Testing* (NTP 553-3001-211) for the type of SDI circuit pack being used. Check the High-Speed Link cable. If the Meridian 1 High-Speed Link port is configured as DCE, use the NT7D99AA null modem cable. If it is configured as DTE, use the NT7D61 or the NT7D58 straight cable. Refer to the "Hardware installation: Application Module" chapter for more information. If your Meridian 1 switch is running X11 Release 18 or lower, the Meridian MAX port needs to be set for the following: Port Address: **x** The range for **x** is 1 to 15.
2	Interface: **xxx** Arrange the port for a modem interface (DTE to DCE).
3	Data Transfer Rate: Enter **9600** baud as the data transfer rate (baud rate). If your Meridian 1 switch is running X11 Release 18, go to Step 10.
4	When upgrading from an ACD C1 or C2 package (the ACD reporting system), all data specifically related to Management reports, ACD printers, and Supervisor terminals (except senior supervisor terminals already using Load Management Link) must be deleted from the current Meridian 1 database prior to programming the database to support the Meridian MAX reporting system. If you are not upgrading from an ACD C1 or C2 package, go to Step 6. The programming is the same as that for the D package options which enable the ADS block.

—continued—

Procedure 15-4 (continued)
To configure the Load Management Link on the Meridian 1

Step	Action
5	To remove the SCB (Schedule Block) load Overlay 23. Remove any devices defined at the STIO prompt from every queue. You must remove them in each ACD-DN block. To "out" or "remove" devices from the STIO prompt, for each queue set the following prompts as shown: TYPE **ACD** ACDN **xxxx** **xxxx** is the queue number. STIO **X** ***Note:*** An upper case **X** means "remove" or "out". To "out" or "remove" the printer from the PRIO prompt: TYPE **SCB** PRIO **X** To disable any input/output devices with user ACD: Load Overlay 37. Enter **LD 37**. DIS TTY **xx** **xx** is the TTY port number.

—continued—

Procedure 15-4 (continued)
To configure the Load Management Link on the Meridian 1

Step	Action
	To disable all ACD devices (printers and supervisor terminals, except the senior supervisor which is used with Meridian MAX), use the following guidelines. For prompts not listed, press {ENTER} to select the default value: Load Overlay 17. Enter **LD 17**. REQ **CHG** TYPE **CFN** CFN is the configuration record. IOTB **YES** The IOTB prompt appears only in X11 releases prior to Release 18. ADAN **OUT TTY xx** USER **ACD** SSUP **NO** Before adding the ADS block, you must "out" or "remove" the SCB: Load Overlay 23. Enter **LD 23**. REQ **OUT** TYPE **SCB** CUST **0**

—continued—

Procedure 15-4 (continued)
To configure the Load Management Link on the Meridian 1

Step	Action
6	Skip to Step 7 if a senior supervisor was programmed in the switch as YES in previous ACD applications. Configure the Meridian 1 database for Meridian MAX. Use document *X11 Features and Services* (NTP 553-3001-305) and these guidelines. In the configuration data block (Overlay program 17), define the Load Management Link: REQ **CHG** TYPE **CFN** CFN is the configuration record. IOTB **YES** The IOTB prompt appears only in X11 releases prior to Release 18. ADAN **aaa TTY x** The address **x** must be the same as the physical address set on the SDI circuit pack and **aaa** must be NEW or CHG. (for example, NEW TTY 2). ESDI **NO** CDNO **x** **x** is the SDI card number. The range for **x** is 0 to 15. DENS **xxxx** DENS refers to the density of the SDI card being used. SDEN is a single-density SDI card (for example, QPC139) , DDEN is a double density SDI card (for example, QPC841), and 4DEN is a quad density SDI card (for example, NT8D41). For more information, see the *X11 Input/Output Guide* (NTP 553-3001-400). USER **ACD** USER is the SDI port user. Configure the user as Automatic Call Distribution (ACD).

—continued—

Procedure 15-4 (continued)
To configure the Load Management Link on the Meridian 1

Step	Action
	CUST **xx** **xx** is the customer number. The range for **xx** is 0 to 99. SSUP **YES** Device assigned to be used by senior supervisor/load manager. APRT **NO** ACD printer must be set to **NO**.
7	In Overlay program 23, define the following values. TYPE **ADS** CUST **0** AID **YES** If **YES**, the switch is in Agent ID mode. If **NO**, the switch is in Position ID mode. IDLB **xxxx** This value is the Agent ID number lower boundary. The range for **xxxx** is 0001 to 9999. IDUB **xxxx** This value is the Agent ID number upper boundary. The range for **xxxx** is the IDLB to 9999. LOG **xxx** **xxx** is the maximum number of agents that can be logged in simultaneously on the Meridian 1 switch. The range is 1 to 999.

—continued—

Procedure 15-4 (continued)
To configure the Load Management Link on the Meridian 1

Step	Action
8	Load Overlay 37. Enter **LD 37**. Wait for the IOD000 response, then enter **STAT TTY x** The range for **x** is 1 to 15. If the system's response is ENLB, then the port is enabled. If the system's response is DSBL then enter **ENL TTY x** The range for **x** is 1 to 15
9	You have configured the Load Management Link.
10	If your Meridian 1 is running X11 Release 18, configure the Meridian 1 database for Meridian MAX. Use document *X11 Features and Services* (NTP 553-3001-305) and these guidelines. In the configuration data block (Overlay program 17), define the Load Management Link: REQ **CHG** TYPE **CFN** CFN is the configuration record. ADAN **aaa TTY x** The address **x** must be the same as the physical address set on the SDI circuit pack and **aaa** must be NEW, CHG or OUT. (for example, NEW TTY 2).

—continued—

Procedure 15-4 (continued)
To configure the Load Management Link on the Meridian 1

Step	Action
11	CTYP **x** **x** is the SDI card number. The possible values for **x** are SDI, SDI2, SDI4, XSDI. DNUM **x** DNUM is the device number printed automatically. The range for **x** is 0 to 15. USER **ACD** USER is the SDI port user. Configure the user as Automatic Call Distribution (ACD). CUST **0**
12	SSUP **YES** Device assigned to be used by senior supervisor/load manager. APRT **NO** ACD printer must be set to **NO**. MGCR **xx** **xx** is the number of call registers to be used for Meridian MAX. The range for **xx** is 26 to 255. ***Note:*** Also in Overlay 17, the value of NCR (system call registers) must be increased by the amount set for MGCR. DCUS **x** **x** is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer. MAGT **x** **x** is the number of agents that can be assigned on the Meridian 1. The range is 1 to 1200. Increments of 10 are preferred, such as 10, 20, 30, etc.
13	You have configured the Load Management Link.

—end—

Configuring the High-Speed Link on the Option 11

To configure the High-Speed Link on the Option 11, follow the steps in Procedure 15-5.

Procedure 15-5
To configure the High-Speed Link on the Option 11

Step	Action
1	Check the options on the Serial Data Interface (SDI) circuit pack. Follow the instructions for Circuit Card Installation and Testing in the *Option 11 Installation Guide* (NTP 553-3011-210) for the type of SDI circuit pack being used. The Meridian MAX port needs to be set for the following: Port Address: **x** The range for **x** is 1 to 15. Interface: **xxx** Arrange the port for a modem interface. For a direct connection use DTE. Data Transfer Rate: Enter **9600** baud as the data transfer rate (baud rate).
2	Before you can "out" or "remove" the TTY, you must first disable it in Load 48. Load Overlay 48. Enter **LD 48**. **DIS ESDI x** **x** is the port where the High-Speed Link will be configured.
3	Configure the Option 11 database for Meridian MAX. Use document *X11 Features and Service* (NTP 553-3001-305) and the following guidelines. For prompts not listed, press {ENTER} to select the default value. In the configuration data block (Overlay program 17), define the following values. REQ **CHG** TYPE **CFN** CFN is the configuration record. IOTB **YES** The IOTB prompt appears only in X11 releases prior to Release 18.

—continued—

Procedure 15-5 (continued)
To configure the High-Speed Link on the Option 11

Step	Action
	ADAN **aaa TTY x** **x** is the TTY port and **aaa** must be NEW or CHG (for example, NEW TTY 2). CDNO **x** **x** must match the slot number on the Option 11 where the card is located. PORT **x** The range for **x** is 0 to 1. BPS **9600** USER **HSL** Configure the user as HIGH SPEED LINK (HSL). CUST **xx** **xx** is the customer number. The range for **xx** is 0 to 99. MGCR **xx** **xx** is the number of call registers to be used for Meridian MAX. The range for **xx** is 26 to 255. ***Note:*** Also in Overlay 17, the value of NCR (system call registers) must be increased by the amount set for MGCR. DCUS **x** **x** is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer. MAGT **x** **x** is the number of agents that can be assigned on the Meridian 1. The range is 1 to 1200.
4	Install the link. Refer to the document *Option 11 Installation Guide* (NTP 553-3011-210) for installation instructions.

—continued—

Procedure 15-5 (continued)
To configure the High-Speed Link on the Option 11

Step	Action
5	If your system is a Meridian MAX - IPE 7 system, connect one end of the High-Speed Link cable to Cable B, Port 8, on the Meridian MAX - IPE, and the other end to the SDI card. If your system is a Meridian MAX 7 SNN system, connect one end of the High-Speed Link cable to Cable A, Port 1, on the Meridian MAX, and the other end to the SDI card.
6	Load Overlay program 48. Enter **LD 48**.
7	Enable the TTY port assigned to the High-Speed Link. Enter **ENL SDI HIGH**
8	Enable the High-Speed Link. Enter **ENL HSL**
9	Check the status of the High-Speed Link. Enter **STAT HSL** NRDY should be the system response. Immediately log out of the Overlay and TTY or the link will not come up. When the link is up, the TTY will display ADD000.

—end—

Configuring the Load Management Link on the Option 11

To configure the Load Management Link on the Meridian 1, follow the steps in Procedure 15-6.

Procedure 15-6
To configure the Load Management Link on the Option 11

Step	Action
1	Check the options on the Serial Data Interface (SDI) circuit pack. Follow the instructions for Circuit Card Installation and Testing in the *Option 11 Installation Guide* (NTP 553-3011-210) for the type of SDI circuit pack being used. The Meridian MAX port needs to be set for the following: Port Address: **x** The range for **x** is 1 to 15. Interface: **xxx** Arrange the port for a modem interface. For a direct connection use DTE. Data Transfer Rate: Enter **9600** baud as the data transfer rate (baud rate).
2	If you are upgrading from an ACD C1 or C2 package, (the ACD reporting system) all data specifically related to management reports, ACD printers, and Supervisor terminals must be deleted from the current Meridian 1 database prior to programming the database to support the Meridian MAX reporting system. If you are not upgrading from an ACD C1 or C2 package, go to Step 6. The programming is the same as that for the D package options which enable the ADS block.

—continued—

Procedure 15-6 (continued)
To configure the Load Management Link on the Option 11

Step	Action
3	To remove the SCB (Schedule Block) load Overlay 23. Remove any devices defined at the STIO prompt from every queue. You must remove them in each ACD-DN block. To "out" or " remove" devices from the STIO prompt: TYPE **ACD** ACDN **xxxx** **xxxx** is the queue number. STIO **X** ***Note:*** An upper case **X** means "remove" or "out". To "out" or "remove" the printer from the PRIO prompt: TYPE **SCB** PRIO **X**
4	Before you can "out" or "remove" the TTY, you must first disable it in Load 48. Load Overlay 48. Enter **LD 48** **DIS ESDI x** **x** is the port where the High-Speed Link will be configured.

—continued—

Procedure 15-6 (continued)
To configure the Load Management Link on the Option 11

5	To disable all ACD devices (supervisor terminals and printers) except the senior supervisor which is used with Meridian MAX, use the following guidelines. For prompts not listed, press {ENTER} to select the default value: Load Overlay 17. Enter **LD 17**. REQ **CHG** TYPE **CFN** CFN is the configuration record. IOTB **YES** The IOTB prompt appears only in X11 releases prior to Release 18. ADAN **OUT TTY xx** CDNO **x** **x** must match the slot number on the Option 11 where the card is located. PORT **x** The range for **x** is 0 to 1. BPS **9600** USER **ACD** CUST **xx** **xx** is the customer number. SSUP **YES** (unless a senior supervisor is programmed here) MGCR **xx** **xx** is the number of call registers to be used for Meridian MAX. The range for **x** is 26 to 255. DCUS **x** **x** is the number of customers; **x** must be greater than 0. Meridian MAX can only serve one customer.

—continued—

Procedure 15-6 (continued)
To configure the Load Management Link on the Option 11

Step	Action
	Before adding the ADS block, you must "out" or "remove" the SCB: Load Overlay 23. Enter **LD 23**. REQ **OUT** TYPE **SCB** CUST **0**
6	Configure the Option 11 database for Meridian MAX. In the configuration data block (Overlay program 17), define the Load Management Link: TYPE **CFN** CFN is the configuration record. IOTB **YES** The IOTB prompt appears only in X11 releases prior to Release 18. ADAN **aaa TTY x** **x** must be and **aaa** must be NEW or CHG (for example, NEW TTY 2). CDNO **x** PORT **x** The range for **x** is 0 to 1. BPS **9600** The SDI port user: USER **ACD** Configure the user as Automatic Call Distribution (ACD). CUST **xx** **xx** is the customer number. SSUP **YES** Device assigned to be used by senior supervisor/load manager.

—continued—

Procedure 15-6 (continued)
To configure the Load Management Link on the Option 11

Step	Action
	APRT **NO** ACD printer must be set to NO.
7	In Overlay program 23, define the following values: TYPE **ADS** CUST **0** AID **YES** If YES, the switch is in Agent ID mode. If NO, the switch is in Position ID mode. IDLB **xxxx** Agent ID number lower boundary. The range for **xxxx** is 0001 to 9999. IDUB **xxxx** Agent ID number upper boundary. The range for **xxxx** is the IDLB to 9999. LOG **xxx** **xxx** is the maximum number of agents that can be logged in simultaneously on the Meridian 1 switch. The range is 1 to 999.
8	Load Overlay 37. Enter **LD 37**. Wait for the IOD000 response, then enter **STAT TTY x** The range for **x** is 1 to 15 If the system's response is ENLB, then the port is enabled. If the system's response is DSBL then enter **ENL TTY x** The range for **x** is 1 to 15.

—end—

Chapter 16: Operating modes

Meridian MAX has three modes of operation: training, precutover, and product (upgraded systems do not come with the training mode).

Training mode is the first mode entered when a new system is installed. This operating mode allows supervisors to train on the system.

Precutover mode is the second mode in which you setup your system.

Product mode is the actual running Meridian MAX system.

Table 16-1
Operating modes procedures

Description of software installation procedures	Procedure #
Switching the default language	Procedure 16-1
Switching from training mode to precutover mode for Meridian MAX 7 SNN systems	Procedure 16-2
Switching from training mode to precutover mode for MAX - IPE 7 systems	Procedure 16-3
Switching from precutover mode to product mode for Meridian MAX 7 SNN systems	Procedure 16-4
Switching from precutover mode to product mode for MAX - IPE 7 systems	Procedure 16-5

Changing the default language

Meridian MAX defaults to English. If you want to change the default language from English to the other installed language on your system, follow the steps described in Procedure 16-1. This procedure can be performed any time that you want to switch your default language from English to your system's secondary language. This procedure can also be used to change your default language back to English.

Procedure 16-1
To change the default language

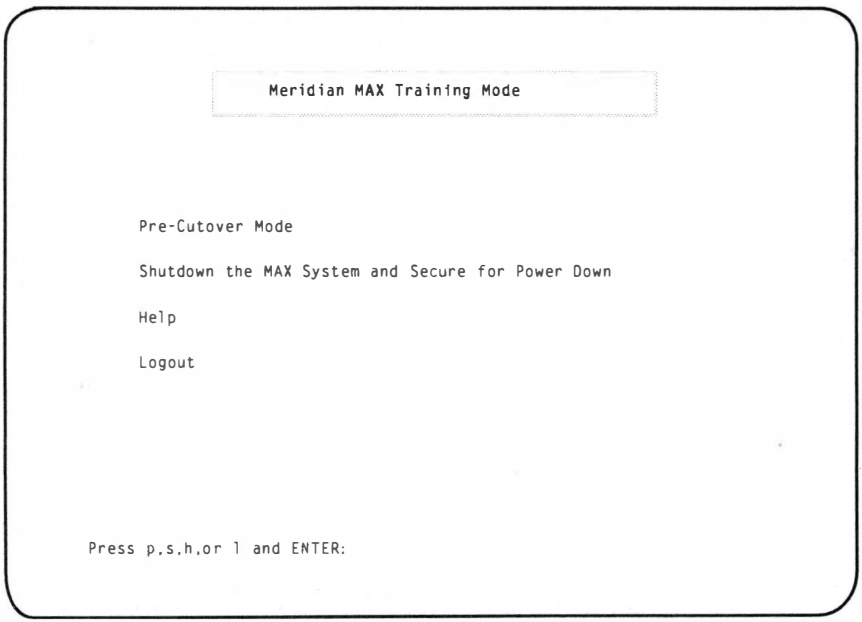
Step	Action
1	Log into the Meridian MAX as Supervisor 0 (zero) in precutover mode, Supervisor 11 or 22 in training mode, or any supervisor with access to the Parameter Administration feature in product mode.
2	Select the Parameter Administration feature from the main menu.
3	Select the Miscellaneous Options feature from the Parameter Administration menu.
4	Select the Default Language field on the Miscellaneous Options screen.
5	Press **{PF2}** to display the choices for the Default Language field. Use the up and down cursor keys to select the language you want as your default language, and press **{RETURN}**. This language appears in the Default Language field.
6	Press **{PF1}** to display the commands. Select the Save changes and exit command and press **{RETURN}**. The system saves your changes and returns you to the main menu.
7	Return to the main menu and log out of the Meridian MAX system. The next time you log into the system the new default language you chose is used by the system.

Training mode

The training mode allows supervisors and other users to be trained in a simulated Meridian MAX call-processing environment. Once training is completed, Meridian MAX can be converted into the precutover mode.

When the system is booted up after the hardware installation (and software if your system has customer-installed software), a number of operational messages, the release number, and a Meridian MAX training mode message is displayed. When training ends, enter **precut** at the maintenance terminal login prompt. The training mode menu, shown in Figure 16-1, is displayed.

Figure 16-1
Meridian MAX training mode menu



A menu of choices is provided by the system. Detailed information on the menu items, as well as information regarding the default supervisor's ID in training mode, is available from the help facility. To view the help text, press **{h}**, followed by **{RETURN}**.

The supervisor workstations can be used in the training mode as soon as Meridian MAX starts up. You have to select and/or define the workstation type before using the workstation for the first time after a system restart. Workstations remain active until either the system is shut down or precutover mode is selected from the system console.

Precutover mode

Before switching to precutover mode, ensure the following are ready:

1 The High-Speed Link is connected between the Meridian MAX and the Meridian 1.

2 The Meridian 1 is configured for the High-Speed Link (Procedure 15-3 for Option 21–81 or Procedure 15-5 for Option 11) and Load Management Link (Procedure 15-4 for Option 21–81 or Procedure 15-6 for Option 11).

3 Supervisors and agents are trained and ready to use the Meridian MAX system.

4 All workstations are logged out.

Switching to precutover mode is an irreversible change (unless the software is reinstalled). To switch to the precutover mode, follow the instructions given in the correct precutover to product procedure for your system.

To switch from training to precutover mode in an SNN system, follow Procedure 16-2. For an IPE system, use Procedure 16-3.

In the precutover mode, the database can be built in preparation for actual MAX operations. Once the system database is set up, you can convert to the product mode. This is the operational mode where typical Meridian MAX operations occur.

Meridian MAX 7 SNN

Follow Procedure 16-2 if you are switching from training mode to precutover mode on an SNN system.

Procedure 16-2
To switch from training mode to precutover mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response

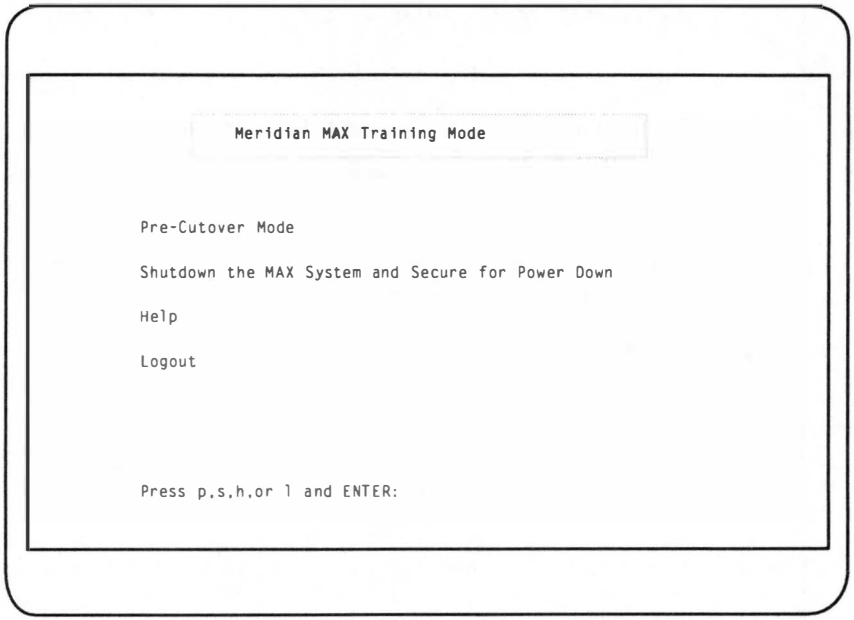
1	Enter precut as the login ID when you log into the maintenance terminal.
	
	`Console login:`
	
	Once you have entered **precut**, followed by **{RETURN}** response, the system displays:
	
	`Password:`

2	Enter the password to log on. This password is supplied by your Nortel distributor.
	
	Once you have entered the password, the system displays copyright and hardware configuration information.
	
	`SYSTEM V/68 Release R3V7 Version 930506 M68040`
	
	`Copyright (c) 1984 AT&T`
	
	`Copyright (c) 1985-1992 Motorola, Inc.`
	
	`All Rights Reserved`
	
	`***`
	
	`erase = DEL  kill = ^u  intr = ^c  quit = ^x`
	
	`***`
	
	The system displays the Meridian MAX Training Mode menu.

—continued—

Procedure 16-2 (continued)
To switch from training mode to precutover mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response



3 Enter **p** to select *"Pre-Cutover Mode"* from the menu.

The system then displays:

```
The MAX system is currently running in XXXXX-ID mode. MAX
must be in the same mode as the Meridian 1/SL-1.
```

(where XXXXX is the current mode of your MAX system, either Agent or Position)

—continued—

Procedure 16-2 (continued)
To switch from training mode to precutover mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response
	Please verify that the Meridian 1/SL-1 is in the same mode as MAX. Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)? (where XXXXX is the current mode of your MAX system)
4	If your Meridian MAX system and the Meridian 1 are not in the same mode, enter **n**, to quit, followed by **{RETURN}**. The main menu is displayed. If you have verified that your MAX system and the Meridian 1 are running in the same mode, enter **y**, followed by **{RETURN}**. The system continues. WARNING: Cutting over to Product mode is an irreversible process. You can only return to training mode by reloading the Meridian MAX software from the original tape. All supervisor activity should be halted before doing this transition. Press 'y' and ENTER to confirm transition to Pre-Cutover mode. Just press ENTER to remain in Training mode.
5	Enter **y**, followed by **{RETURN}**. The system continues. Meridian MAX terminating... Signal forces mapa_logger termination cron aborted: SIGTERM

—continued—

Procedure 16-2 (continued)
To switch from training mode to precutover mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response
	***> Creating the SYSTEM database - please wait... (TIME) SYSTEM database created. Loading MAX 7 system data files... Loading data files for precut mode... Data files loaded DATA database update starts. Creating the MAX 7 DATA database for precut mode. This process takes approximately 1 to 5 minutes to execute. Creating a new database (TIME) End of DATA database update.
6	The system displays the Meridian MAX Hardware and System Parameters screen. Refer to the "Meridian MAX system configuration" chapter on instructions on how to configure the system's ports.
7	When you have completed the port configuration, the system continues. ***> Creating USER LANGUAGE database - please wait (TIME) USER LANGUAGE database created. INIT: New run level: 6 The system is coming down. Please wait.

—continued—

Procedure 16-2 (continued)
To switch from training mode to precutover mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response
	System services are now being stopped. NFS Shutdown: [NFS Shutdown Complete] The system is down. NOTICE: System Reboot Requested (0)
8	The system reboots and displays the copyright and hardware configuration information. Copyright Motorola Inc. 1988 - 1993, All Rights Reserved MVME167 Debugger/Diagnostic Release Version 1.5 - 02/14/93 COLD START Local Memory Found =02000000 (&33554432) MPU Clock Speed =33Mhz Autoboot in progress... To abort hit <BREAK> Booting from: VME167, Controller 0, Device 0 Loading: Operating System Volume: $00000000 IPL loaded at: $001F0000 VME Disk IPL Version 52.2

—continued—

Procedure 16-2 (continued)
To switch from training mode to precutover mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response

```
***
 erase = DEL    kill = ^u  intr = ^c   quit = ^x
***
```

Note: The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **DEL** key deletes and backspaces one character.

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks   Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------------------
Disk    00   0002 8770...   .......   2054325 0512 SEAGATE ST11200N
Tape    40   0001 RV J...   .......   0000000 0000 TEAC MT-2ST/F50B
```

This configuration is an example. Your system configuration may differ.

```
Enter <CR> to pause in a single user shell before init.
Default boot sequence continuing...
The system is coming up. Please wait.
Node name set to MAX00
mount -f S51K /dev/usr /usr
Checking for system dump...
Expreserve notification performed.
Downloading MVME332XT Line Disciplines.
Error logging started.
OSM logging started.
port_hold started.
Transport Provider daemon started.
Internet services provided.
portmap started
```

—continued—

Procedure 16-2 (continued)
To switch from training mode to precutover mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response
	Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started. Loading System Language Strings... Loading System Language Strings completed. OSM logging stopped. MAX OSM logging started. Meridian MAX Release 07.xx Meridian MAX Precut Mode Please login as precut for more details. The system is ready. Console Login:
9	The system is now ready for precutover mode. When you login as **precut**, the precutover mode menu screen is displayed (see Figure 16-2). Refer to Procedure 16-4, "Switching from precutover mode to product mode for single-module systems" for instructions on how to transfer from the precutover mode to the product mode.

—end—

Meridian MAX - IPE 7

Follow Procedure 16-3 if you are switching from training mode to precutover mode on a Meridian MAX - IPE 7 system.

Procedure 16-3
To switch from training mode to precutover mode for Meridian MAX - IPE 7 systems

Step	Installer's action and system's response

1	Enter **precut** as the login ID when you log into the maintenance terminal.
	`Console login:`
	Once you have entered your response, the system displays:
	`Password:`

2	Enter the password to log on. This password is supplied by your Nortel distributor.
	Once you have entered the password, the system displays copyright and hardware configuration information.
	`SYSTEM V/68 Release R3V7 Version 921029 M68040`
	`MAX00`
	`Copyright (c) 1984 AT&T`
	`Copyright (c) 1985-1992 Motorola, Inc.`
	`All Rights Reserved`

—continued—

Procedure 16-3 (continued)
To switch from training mode to precutover mode for Meridian MAX - IPE 7 systems

Step	Installer's action and system's response
	*** erase = DEL kill = ^u intr = ^c quit = ^x *** The system displays the Meridian MAX Training Mode menu (see Figure 16-1).

```
Meridian MAX Training Mode

Pre-Cutover Mode

Shutdown the MAX System and Secure for Power Down

Help

Logout

Press p,s,h,or l and ENTER:
```

—continued—

Procedure 16-3 (continued)
To switch from training mode to precutover mode for Meridian MAX - IPE 7 systems

Step	Installer's action and system's response

3	Enter **p** to select *"Pre-Cutover Mode"* from the menu.
	
	The system then displays:
	
	`The MAX system is currently running in XXXXX-ID mode. MAX must be in the same mode as the Meridian 1/SL-1.`
	
	(where XXXXX is the current mode of your MAX system, either Agent or Position)
	
	`Please verify that the Meridian 1/SL-1 is in the same mode as MAX.`
	
	`Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?`
	
	(where XXXXX is the current mode of your MAX system)

4	If your Meridian MAX system and the Meridian 1 are not in the same mode, enter **n**, to quit, followed by **{RETURN}**. The main menu is displayed.
	
	If you have verified that your MAX system and the Meridian 1 are running in the same mode, enter **y**, followed by **{RETURN}**.
	
	The system continues.
	
	`WARNING: Cutting over to Product mode is an irreversible process. You can only return to training mode by reloading the Meridian MAX software from the original tape. All supervisor activity should be halted before doing this transition.`
	
	`Press 'y' and ENTER to confirm transition to Pre-Cutover mode.`
	
	`Just press ENTER to remain into Training mode.`

—continued—

Procedure 16-3 (continued)
To switch from training mode to precutover mode for Meridian MAX - IPE 7 systems

Step	Installer's action and system's response

5	Enter **y**, followed by **{RETURN}**.
	
	The system continues.
	
	`Meridian MAX terminating...`
	
	`Signal forces mapa_logger termination`
	
	`cron aborted: SIGTERM`
	`***> Creating the SYSTEM database - please wait... (TIME)`
	
	`SYSTEM database created.`
	
	`Loading MAX 7 system data files...`
	
	`Loading data files for precut mode...`
	
	`Data files loaded`
	
	`DATA database update starts.`
	
	`Creating the MAX 7 DATA database for precut mode.`
	
	`This process takes approximately 1 to 5 minutes to execute.`
	
	`Creating a new database (TIME)`
	
	`End of DATA database update.`

6	The system displays the Meridian MAX Hardware and System Parameters screen. Refer to the "Meridian MAX system configuration" chapter on instructions on how to configure the system's ports.
7	When you have completed the port configuration, the system continues.

—continued—

Procedure 16-3 (continued)
To switch from training mode to precutover mode for Meridian MAX - IPE 7 systems

Step	Installer's action and system's response
	***> Creating USER LANGUAGE database - please wait (TIME) USER LANGUAGE database created. INIT: New run level: 6 The system is coming down. Please wait. INIT: New run level: 6 The system is coming down. Please wait. System services are now being stopped. NFS Shutdown: [NFS Shutdown Complete] The system is down. NOTICE: System Reboot Requested (0)

—continued—

Procedure 16-3 (continued)
To switch from training mode to precutover mode for Meridian MAX - IPE 7 systems

Step	Installer's action and system's response

8	The system reboots and displays the copyright and hardware configuration information.
	
	`Copyright Motorola Inc. 1988 - 1992, All Rights Reserved`
	
	`MVME167 Debugger/Diagnostic Release Version 1.4 - 07/22/92`
	
	`COLD START`
	
	`Local Memory Found =01000000 (&16777216)`
	
	`MPU Clock Speed =25Mhz`
	`Autoboot in progress... To abort hit <BREAK>`
	`Booting from: VME167, Controller 0, Device 0`
	`Loading: Operating System`
	
	`Volume: $00000000`
	
	`IPL loaded at: $001F0000`
	`VME Disk IPL Version 52.2`
	`***`
	`erase = DEL  kill = ^u  intr = ^c  quit = ^x`
	`***`
	
	Note: The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **DEL** key deletes and backspaces one character.

—continued—

Procedure 16-3 (continued)
To switch from training mode to precutover mode for Meridian MAX - IPE 7 systems

Step	Installer's action and system's response

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks  Size Vendor Description
------  ---- ---- --------  -------   -------  ---- ------------------
Disk    D0   0001 M606...   .......   0352176 0512 FUJITSU M2614S
Tape    40   0001 RV E...   .......   0000000 0000 TEAC MT-2ST/N50
```

This configuration is an example. Your system configuration may differ.

```
Enter <CR> to pause in a single user shell before init.
Default boot sequence continuing...
The system is coming up. Please wait.
Node name set to MAX00
mount -f S51K /dev/usr /usr
Checking for system dump...
Expreserve notification performed.
Error logging started.
OSM logging started.
port_hold started
Transport Provider daemon started.
Internet services provided.
portmap started
Stream Error logging started.
netspec "tcpip" not set up.
Network Commands: rwalld
routed started.
```

—continued—

Procedure 16-3 (continued)
To switch from training mode to precutover mode for Meridian MAX - IPE 7 systems

Step	Installer's action and system's response
	NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started. Loading System Language Strings... Loading System Language Strings completed. Starting MAX OSM Logger, Please wait... OSM logging stopped. MAX OSM logging started. Meridian MAX Release 07.xx Meridian MAX Precut Mode Please login as precut for more details. The system is ready. Console Login:
9	The system is now ready for precutover mode. When you log in as **precut**, the precutover mode menu screen is displayed (see Figure 16-2). Refer to Procedure 16-5, "Switching from precutover mode to product mode for Meridian MAX - IPE 7," for instructions on how to transfer from the precutover mode to the product mode.

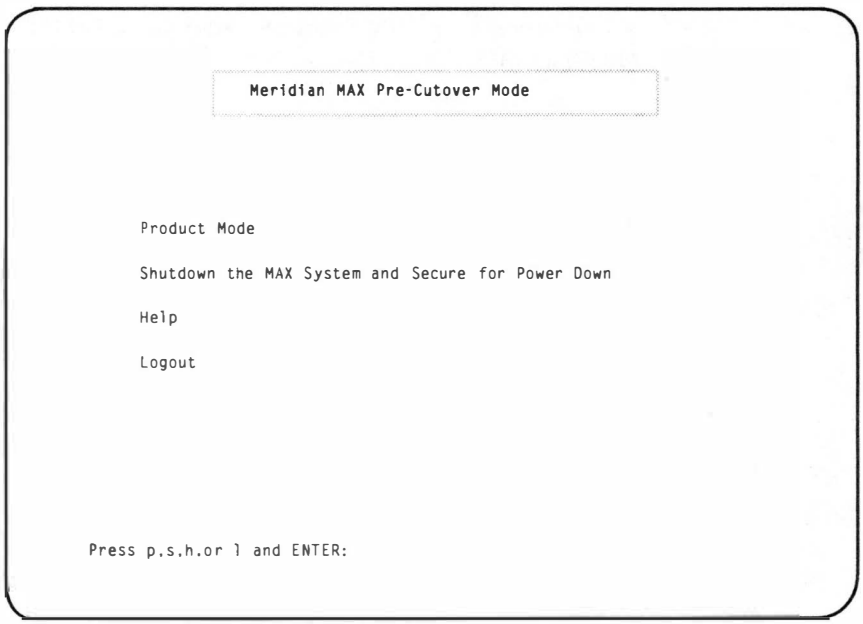
—end—

Product mode

The database parameters are entered through the Parameter Administration option from the main menu. This is done by logging in at a supervisor's workstation, initially as Supervisor 0. Refer to the *Meridian MAX 7 Supervisor's User Guide* (P0815598), "Parameter Administration" chapter, for further information.

When the system is booted up after the transition from training mode to precutover mode is completed, enter **precut** at the maintenance terminal login prompt, then enter the password provided by your Nortel representative or distributor. The precutover mode menu, as shown in Figure 16-2, is displayed.

Figure 16-2
Meridian MAX precutover mode menu



A menu of choices is provided by the system. Press **h**, followed by **{RETURN}**, to obtain detailed information from the help facility on the items in the menu as well as the default supervisor's ID information.

Before switching to product mode, ensure that the following are ready:

1. The High-Speed Link is connected between the Meridian MAX and the Meridian 1. (The link does not come up until Meridian MAX is in product mode.)
2. The Meridian 1 is configured for the High-Speed Link (Procedure 15-3 for Option 21–81, or Procedure 15-5 for Option 11) and Load Management Link (Procedure 15-4 for Option 21–81, or Procedure 15-6 for Option 11).
3. Supervisors and agents are trained and ready to use the Meridian MAX system.
4. All workstations are logged out.
5. The Meridian MAX database is set up correctly.

The product mode is the normal mode for operation. Once in product mode, your Meridian MAX system is completely installed.

If your system is an SNN, follow Procedure 16-4. For IPE, follow Procedure 16-5.

Meridian MAX 7 SNN

Follow Procedure 16-4 if you are switching from precutover mode to product mode on an SNN system.

Procedure 16-4
To switch from precutover mode to product mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response

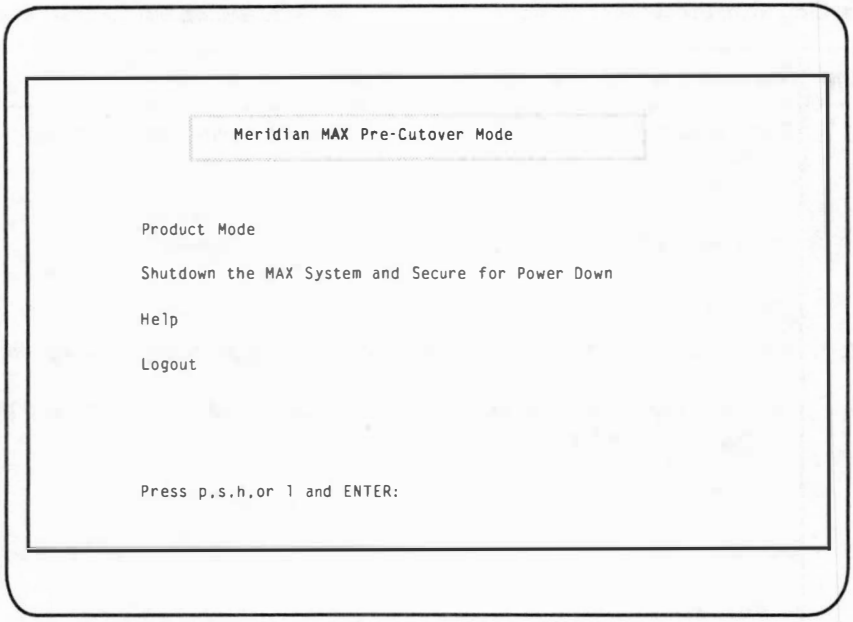
1	Enter **precut** as the login ID when you log into the maintenance terminal.
	
	`Console login:`
	
	Once you have entered your response, the system displays:
	
	`Password:`

2	Enter the password to log on. This password is supplied by your Nortel distributor.
	
	Once you have entered the password, the system displays copyright and hardware configuration information.
	
	`SYSTEM V/68 Release R3V7 Version 930506 M68040`
	
	`MAX00`
	
	`Copyright (c) 1984 AT&T`
	
	`Copyright (c) 1985-1992 Motorola, Inc.`
	
	`All Rights Reserved`
	
	`***`
	
	`erase = DEL  kill = ^u  intr = ^c  quit = ^x`
	
	`***`
	
	Note: The previous message tells you that the **{CONTROL}{C}** keys pressed simultaneously cause a system interruption which terminates the current process. The DEL key deletes and backspaces one character.
	
	The system displays the Meridian MAX Precutover Mode menu.

—continued—

Procedure 16-4 (continued)
To switch from precutover mode to product mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response



3 Enter **p** to select *"Product Mode"* from the menu.

The system then displays:

```
The MAX system is currently running in XXXXX-ID mode. MAX
must be in the same mode as the Meridian 1/SL-1.
```

(where XXXXX is the current mode of your MAX system, either Agent or Position)

```
Please verify that the Meridian 1/SL-1 is in the same mode as MAX.

Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?
```

(where XXXXX is the current mode of your MAX system)

—continued—

Procedure 16-4 (continued)
To switch from precutover mode to product mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response

4	If your Meridian MAX system and the Meridian 1 are not in the same mode, enter **n**, to quit, followed by **{RETURN}**. The main menu is displayed.
	
	If you have verified that your MAX system and the Meridian 1 are running in the same mode, enter **y**, followed by **{RETURN}**.
	
	The system continues.
	
	`WARNING: Cutting over to Product mode is an irreversible process. You can only return to training/pre-cut mode by reloading the Meridian MAX software from the original tape. All supervisor activity should be halted before doing this transition.`
	
	`Press 'y' and ENTER to confirm transition to Product mode.`
	
	`Just press ENTER to remain in Pre-cut mode.`

5	Enter **y**, followed by **{RETURN}**, to convert to product mode.
	
	The system displays:
	
	`Meridian MAX terminating...`
	
	`Signal forces mapa_logger termination`
	
	`cron aborted: SIGTERM`
	
	`INIT: New run level: 6`
	
	`The system is coming down. Please wait.`
	
	`System services are now being stopped.`

—continued—

Procedure 16-4 (continued)
To switch from precutover mode to product mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response

```
NFS shutdown: [NFS Shutdown Complete]


The system is down.

NOTICE: System Reboot Requested (0)

Copyright Motorola inc. 1988 - 1993, All Rights Reserved
MVME167 Debugger/Diagnostics Release Version 1.5 - 02/14/93

COLD Start

Local Memory Found =02000000 (&33554432)

MPU Clock Speed =33Mhz

Autoboot in progress... To abort hit <BREAK>
Booting from: VME167, Controller 0, Device 0

Loading: Operating System

Volume: $00000000

IPL loaded at: $001F0000

VME Disk IPL Version 52.2


***
 erase = DEL   kill = ^u   intr = ^c   quit = ^x
***
```

Note: The previous message tells you that the **{CONTROL} {C}** keys pressed simultaneously cause a system interruption which terminates the current process. The **DEL** key deletes and backspaces one character.

—continued—

Procedure 16-4 (continued)
To switch from precutover mode to product mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response

```
167 SCSI configuration
Device  Addr Vers Revision  Serial#   Blocks  Size Vendor Description
------  ---- ---- --------  -------   ------- ---- ------------------
Disk    00   0002 8770...   .......   2054325 0512 SEAGATE ST11200N
Tape    40   0001 RV J...   .......   0000000 0000 TEAC MT-2ST/F50B
Enter <CR> to pause in a single user shell before init.

Default boot sequence continuing...
The system is coming up. Please wait.
Node name set to MAX00.
mount -f S51K /dev/usr /usr
Checking for system dump...
Expreserve notification performed.
Downloading MVME332XT Line Disciplines.
Error logging started.
OSM logging started.
port_hold started.
Transport Provider daemon started.
Internet services provided.
portmap started.
```

—continued—

Procedure 16-4 (continued)
To switch from precutover mode to product mode for Meridian MAX 7 SNN systems

Step	Installer's action and system's response
	Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS Startup complete. Line printer scheduler started. Loading System Language Strings... Loading System Language Strings completed. Starting MAX OSM Logger, Please wait... OSM Logging stopped. MAX OSM logging started. Meridian MAX Release 07.xx The system is ready. Console login: The system is now in product mode. You can log into the system.
6	To verify that all purchasable options and customer-controlled options are correct, login as **maint**, and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Option Display" subsection, for more information.

—end—

Meridian MAX - IPE 7

Follow Procedure 16-5 if you are switching from precutover mode to product mode on a Meridian MAX - IPE 7 system.

Procedure 16-5
To switch from precutover mode to product mode for Meridian MAX - IPE 7

Step	Installer's action and system's response

1	Enter precut as the login ID when you log into the maintenance terminal.
	
	`Console login:`
	
	Once you have entered your response, the system displays:
	
	`Password:`

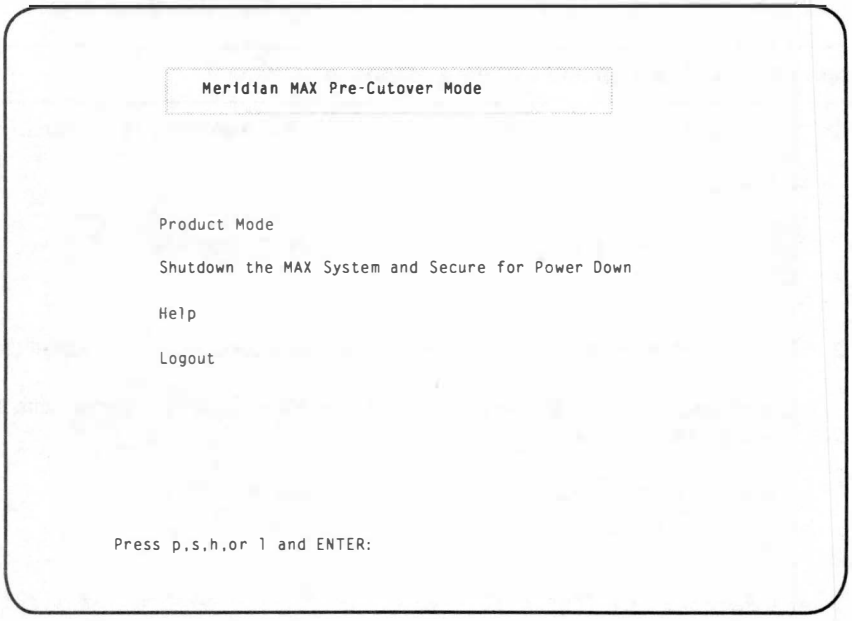
2	Enter the password to log on. This password is supplied by your Nortel distributor.
	
	Once you have entered the password, the system displays copyright and hardware configuration information.
	
	`SYSTEM V/68 Release R3V7 Version 930506 M68040`
	
	`MAXSYS2`
	
	`Copyright (c) 1984 AT&T`
	
	`Copyright (c) 1985-1992 Motorola, Inc.`
	
	`All Rights Reserved`
	
	`***`
	
	`erase = DEL  kill = ^u  intr = ^c  quit = ^x`
	
	`***`
	
	Note: The previous message tells you that the **{CONTROL}{C}** keys pressed simultaneously cause a system interruption which terminates the current process. The DEL key deletes and backspaces one character.

3	The system displays the Meridian MAX Precutover Mode screen.

—continued—

Procedure 16-5 (continued)
To switch from precutover mode to product mode for Meridian MAX - IPE 7

Step	Installer's action and system's response



4 Enter **p** to select *"Product Mode"* from the menu.

The system then displays:

```
The MAX system is currently running in XXXXX-ID mode. MAX
must be in the same mode as the Meridian 1/SL-1.
```

(where XXXXX is the current mode of your MAX system, either Agent or Position)

```
Please verify that the Meridian 1/SL-1 is in the same mode as MAX.

Is the Meridian 1/SL-1 in XXXXX-ID mode (y/n)?
```

(where XXXXX is the current mode of your MAX system)

—continued—

Procedure 16-5 (continued)
To switch from precutover mode to product mode for Meridian MAX - IPE 7

Step	Installer's action and system's response
5	If your Meridian MAX system and the Meridian 1 are not in the same mode, enter **n**, to quit, followed by **{RETURN}**. The main menu is displayed. If you have verified that your MAX system and the Meridian 1 are running in the same mode, enter **y**, followed by **{RETURN}**.
6	The Alter / View Meridian MAX- IPE Information screen appears.

```
                Alter / View Meridian MAX - IPE Information

All the information below must be entered before you can enter "Product Mode"

          Meridian 1 Option Type : # *


           The card slots occupied by the Meridian MAX - IPE on the

            Meridian 1 Switch (TN format) :    0 0 4
                                               0 0 5
                                               0 0 6
                                               0 0 7 **


     Press y and ENTER to change any/all of the information above.

     (Just Enter to quit):
```

* # is the Option Type number

** This card slot number would only appear if you are using Option 21–81 because it occupies four slots in the Meridian 1 switch.

The information in this screen is already in the system and is displayed for confirmation.

—continued—

Procedure 16-5 (continued)
To switch from precutover mode to product mode for Meridian MAX - IPE 7

Step	Installer's action and system's response

7	If the information is correct, press **{RETURN}**. Go to Step 11.
	
	If the information is incorrect, type **y**, followed by **{RETURN}**.
	
	The following screen appears:
	
	`The current Meridian 1 Option Type : # *`
	
	`Valid Option Types: 11, 21, 51, 61, 71, or 81.`
	
	`Please enter the new Meridian 1 Option Type.`
	
	`(Just Enter to quit):`

8	* # is the current Meridian 1 Type. Enter the new Meridian Option Type. Once you have entered the new Meridian 1 Option Type, the following appears at the bottom of the screen. `The Meridian 1 Option Type is changed to: ##` (where ## is the new Meridian 1 Option Type)

—continued—

Procedure 16-5 (continued)
To switch from precutover mode to product mode for Meridian MAX - IPE 7

Step	Installer's action and system's response
9	The following screen then appears:

```
                Alter / View Meridian MAX - IPE Information


The card slots occupied by the Meridian MAX - IPE on the Meridian 1 switch
 (TN format) are : UNKNOWN

   The TN is the format  'lll s cc' , where

                lll (loop number) =  0-159
                 s (shelf number) =  0-3
                cc ( card number) =  0-18




Please enter the new starting location of the Meridian MAX - IPE
(TN format):
(Just Enter to quit):
```

10	Enter the starting slot location for the Meridian MAX - IPE, followed by **{RETURN}**. Be sure to insert a space between each digit of the slot number, for example, 0 0 4. ***Note:*** If you have an Option 11, the three consecutive slots are needed. If you have an Option 21–81, four consecutive slots are required. The system then returns to the Alter / View Meridian MAX - IPE Information screen seen in Step 6. Return to Step 7.

—continued—

Procedure 16-5 (continued)
To switch from precutover mode to product mode for Meridian MAX - IPE 7

Step	Installer's action and system's response
11	The system continues. WARNING: Cutting over to Product mode is an irreversible process. You can only return to training/pre-cut mode by reloading the Meridian MAX software from the original tape. All supervisor activity should be halted before doing this transition. Press 'y' and ENTER to confirm cutting over to Product mode. Just press ENTER to remain in Pre-cut mode.
12	Enter **y**, followed by **{RETURN}**, to convert to product mode. The system continues. Meridian MAX terminating... Signal forces mapa_logger termination cron aborted: SIGTERM INIT: New run level: 6 The system is coming down. Please wait. System services are now being stopped. NFS shutdown: [NFS Shutdown Complete] The system is down. NOTICE: System Reboot Requested (0) The system then reboots and displays the copyright and hardware configuration information. Copyright Motorola Inc. 1988 - 1993, All Rights Reserved M4120 Debugger/Diagnostics Release Version 1.5 - D2/14/92

—continued—

Procedure 16-5 (continued)
To switch from precutover mode to product mode for Meridian MAX - IPE 7

Step	Installer's action and system's response
13	COLD Start Local Memory Found =01000000 (&16777216) MPU Clock Speed = 25Mhz Autoboot in progress... To abort hit <BREAK> Booting from: VME167, Controller 0, Device 0 Loading: Operating System Volume: $00000000 IPL loaded at: $001F0000 VME Disk IPL Version 52.2 *** erase = DEL kill = ^u intr = ^c quit = ^x *** ***Note*: The previous message tells you that the {CONTROL} {C} keys pressed simultaneously cause a system interruption which terminates the current process. The DEL key deletes and backspaces one character.** 167 SCSI configuration Device Addr Vers Revision Serial# Blocks Size Vendor Description ------ ---- ---- -------- ------- ------- ---- ------------------ Disk 00 0001 M606... ..... 0352176 0512 FUJITSU M2614S Tape 40 0001 RV E... ..... 0000000 0000 TEAC MT-2ST/N50 **This configuration is an example. Your system messages may differ.** Enter <CR> to pause in a single user shell before init. Default boot sequence continuing...

—continued—

Procedure 16-5 (continued)
To switch from precutover mode to product mode for Meridian MAX - IPE 7

Step	Installer's action and system's response
	The system is coming up. Please wait. Node name set to MAX00. mount -f S51K /dev/usr /usr Checking for system dump... Expreserve notification performed. Error logging started. OSM logging started. port_hold started. Transport Provider daemon started. Internet services provided. portmap started. Stream Error logging started. netspec "tcpip" not set up. Network Commands: rwalld routed started. NFS Startup... ONC daemons: NFS daemons: Lock manager: NFS startup complete Line printer scheduler started. Loading System Language Strings... Loading System Language Strings completed. Starting MAX OSM Logger, Please wait... OSM Logging stopped. MAX OSM logging started.

—continued—

Procedure 16-5 (continued)
To switch from precutover mode to product mode for Meridian MAX - IPE 7

Step	Installer's action and system's response

	`Meridian MAX Release 07.xx`
	
	`The system is ready.`
	
	`Console login:`
	
	The system is now in product mode. You can log into the system.

14	To verify that all purchasable options and customer-controlled options are correct, login as **maint**, and refer to the *Meridian MAX 7 Maintenance and Diagnostics Guide* (NTP 553-4001-811), "Maintenance and administration programs: system running" chapter, "View/Modify Meridian MAX Options" section, "Current Option Display" subsection for more information.

—end—

Chapter 17: Meridian MAX power-down procedure

The Meridian MAX system is designed to work most effectively when the system is left on at all times. If there is no overruling, site-specific reason for turning off the Meridian MAX system, it is recommended that the system be left on.

CAUTION
Risk of data corruption
Do not power off a module without first performing the system shutdown procedure.

The Meridian MAX module must not be powered off without first shutting down the system. The shutdown process synchronizes the information currently in system memory with the information on the hard drive. Only in extenuating circumstances should the module be powered off without first shutting down.

If you must turn the system off, follow these steps:

1. Log on as "maint" and enter the maintenance password as required.
2. Select **s** to shut down the Meridian MAX software.
3. Select *"Restart & Power Down System Utilities"* option from the main maintenance menu.
4. At the Restart and Power Down Utilities submenu, select the *"Secure the System for Power Down"* option.
5. Once the system displays "`NOTICE: System secured for powering down`", turn off the power to the Meridian MAX module.

Chapter 18: Meridian MAX installation checklist

This checklist provides you with a handy reference for installing your Meridian MAX system. All items on the checklist correspond to sections and chapters of this document unless otherwise indicated. Be certain you read the document before proceeding with any installation procedure.

Site preparation

Plan out the site for your system's hardware. Be sure to take into account the Power and Environmental requirements. For more information refer to the "Site Preparation" chapter.

Site Preparation completed ? _____

Hardware installation

Read your peripheral equipment warranties and register them with the appropriate individual. For more information, refer to the "Hardware installation overview" chapter, "A word about warranties" section.

Peripheral equipment warranties registered ? _____

Install the Meridian MAX module. For more information, refer to either "Hardware installation: Application Module" and "Hardware installation: Intelligent Peripheral Equipment (IPE) module" chapters, depending on your hardware platform.

Meridian MAX module installed ? _____

Install the multiport cables. For more information, refer either the "Hardware installation: Application Module" and "Hardware installation: Intelligent Peripheral Equipment (IPE) module" chapters, depending on your hardware platform, "Cables" section.

Multiport cables installed ? _____

Install the printers. Ensure that the settings are correct. For more information, refer to the "Printers" chapter.

Printer(s) installed ? _____

Install the workstations. Ensure that the PCs are configured and VDTs are set up. For more information, refer to the "Workstations" chapter.

Workstation(s) installed ? _____

Connect the hardware to the power source(s). (Do not power up the hardware.)

Power cable(s) installed ? _____

Connect all modems if required. For more information, refer to the "Modems" chapter.

MAX Status Interface (MSI) installed ? _____

Connect Meridian MAX to the central real-time load management system, if required. For more information, refer to the "LAN connectivity with MSI and MTE" chapter.

Network link modem(s) installed ? _____

Limited-distance modem(s) installed ? _____

Remote diagnostic modem installed ? _____

Supervisor dial-up modem(s) installed ? _____

Hardware installation completed ? _____

Software installation

Providing you have completed the hardware installation, proceed with the software installation. If you performed a new SNN or IPE software installation, refer to the "New software installations" chapter. If you installed a more recent issue of your existing software, refer to the "Loading a new software release" chapter. If you performed a software reinstallation or upgrade, refer to the "Software reinstallations and upgrades" chapter.

Capacity Configuration worksheets completed ? _____

Ensure that the Capacity Configuration worksheets are completed and approved. For more information, refer to the "Meridian MAX system configuration" chapter.

Software installed (if necessary) ? _____

Ensure that the workstations are configured for the system. For more information, refer to the "Workstation, HSL, and LML configuration" chapter.

Workstation Configuration completed ? _____

Software Installation completed ? _____

Operating modes

Make sure that all supervisors and system administrators have had the opportunity to learn to use the system while in the Training Mode. For more information, refer to the "Operating modes" chapter, "Training mode" section.

Training completed ? _____

Switch from Training Mode to Precutover Mode. For more information, refer to the "Operating modes" chapter, "Precutover mode" section .

Precutover Mode started ? _____

Make sure that the system database is established while in the Precutover Mode. For more information, refer to the "Operating modes" chapter, "Precutover mode" section.

System database completed ? _____

Switch from Precutover Mode to Product Mode. For more information, refer to the "Operating modes" chapter, "Product mode" section.

Product Mode started ? _____

Make sure that you insert a backup tape into the tape drive. For more information, refer to the "Software installation overview" chapter, "Backups" section.

Backup tape inserted ? _____

Chapter 19: Field replaceable parts

Field replaceable parts for Meridian MAX running on an Application Module (AM) are listed in Table 19-1.

Table 19-1
Recommended spare parts for Meridian MAX Application Module

Name used in document	Part number
MVME167-34 CPU	A0386049
MVME332-XTS 8-channel asynchronous board	A0376918
MVME332-XT 8-channel asynchronous board	A0376918
MVME712M transition card	A0601182
MVME712AM transition card	A0351167
Transition card for MVME332-XT board	NT7D51AA (A0387982)
1.2-Gbyte disk drive and 600-Mbyte tape drive unit	NT7D62CA (A0404821)
172-Mbyte disk drive and 155-Mbyte tape drive unit	NT7D62AB (A0387828)
240-Mbyte disk drive and 155-Mbyte tape drive unit	NT7D62AC (A0401542)
AC power supply	NT7D64AA (A0374109)
DC power supply	NT7D64DC (A0374110)

Field replaceable parts for Meridian MAX running on an Intelligent Peripheral Equipment (IPE) module are listed in Table 19-2.

Table 19-2
Recommended spare parts for Meridian MAX - IPE module

Name used in document	Part number
Meridian MAX - IPE Option 11 Field Replaceable Unit (1.2-Gbyte hard drive and 600-Mbyte tape drive)	A0617009
Meridian MAX - IPE Option 21-81 Field Replaceable Unit (1.2-Gbyte hard drive and 600-Mbyte tape drive)	A0617010

Miscellaneous equipment used with Meridian MAX running on an Application Module (AM) or an Intelligent Peripheral Equipment (IPE) module are listed in Table 19-3.

Table 19-3
Miscellaneous spare parts for Meridian MAX

Name used in document	Part number
Meridian Terminal Emulator (MTE) 5.32 Software Package	NT1R75AA (A0406758)
Meridian Terminal Emulator (MTE) 6 Software Package	NT1R75BA (A0639649)
Meridian Terminal Emulator (MTE) 7 Software Package	NT1R75CA (A0645547)
Power Monitor Mounting Bracket Kit	NT7D18KA (A0405826)

The part numbers for interconnect AM cables are listed in Table 19-4.

The part numbers for external AM cables are listed in Table 19-5.

The part numbers for external IPE cables are listed in Table 19-6.

Table 19-4
Interconnect cables and part numbers for Application Module (AM)

ENG Code	Application	Cable and connector style	Length
NT7D47DA	Carries input/output between the MVME712M transition card and the Input/Output connector panel (Ethernet)	15-pin (male) Ethernet to 15-pin (female) Ethernet	35.5 cm (14 inches)
NT7D58CA	Carries input/output between the Input/Output connector panel (Card 1, Conn 4) and the MVME712M transition board (Serial Port 4)	15-pin (female) high density D-sub to 25-pin (male) round subminiature D-style	35.5 cm (14 inches)
NT7D79BA	Carries input/output between the Input/Output connector panel (Card 1, Conn 1-3, modem and SDI Link) and the MVME712M transition board (Serial Ports 1, 2 and 3)	9-pin (male) to 25-pin (male) subminiature D-style	35.5 cm (14 inches)
NT7D95AA	Carries input/output between the Input/Output connector panel (Card 2-6, Conn 1-3) and the NT6D51AA transition board	25-pin (male) subminiature D-style to 25-pin (male) subminiature D-style	35.5 cm (14 inches)

Table 19-5
External cables and part numbers for Application Module (AM)

ENG Code	Application	Cable and Connector style	Length
NT1R03DB NT1R03DC NT1R03DF NT1R03DP NT1R03DV	Connects as input/output between modems and peripheral devices	DB-25 (male) connector to DB-25 (male) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT1R03EB NT1R03EC NT1R03EF NT1R03EP NT1R03EV	Connects as input/output between modems and peripheral devices	DB-25 (male) connector to DB-25 (female) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 m (25 ft) 13.7 m (45 ft)
NT7D47EA	Carries input/output between the Input/Output connector panel (Ethernet) and the customer supplied transceiver	15-pin (male) connector with thumb screws to 15-pin (female) connector with sliding latch	3 m (10 ft)
NT7D58AB NT7D58AD NT7D58AF NT7D58AL NT7D58AT NT7D58AV	Carries input/output between the Input/Output connector panel and the SDI port Used for SDI cards, QPC139, QPC841, and for terminals and printers (with A0351509 gender changer) This cable is also used to connect a Meridian MAX system to Option 11.	25-pin (male) subminiature D-style connector to 25-pin (male) subminiature D-style connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT7D58BB NT7D58BD NT7D58BF NT7D58BL NT7D58BT NT7D58BV	Carries input/output between the Input/Output connector panel (Card 1, Conn 4) and the Meridian 1/SL-1	15-pin (male) high-density connector to 25-pin (female) connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)

—continued—

Table 19-5 (continued)
External cables and part numbers for Application Module (AM)

ENG Code	Application	Cable and Connector style	Length
NT7D61AB NT7D61AD NT7D61AF NT7D61AL NT7D61AT NT7D61AV	Carries input/output between the Input/Output connector panel and the Meridian MAX system console (with A0351509 gender changer)	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	61 cm (2 ft) 1.8 m (6 ft) 3 m (10 ft) 6.1 m (20 ft) 10.7 m (35 ft) 13.7 m (45 ft)
NT8D93AJ NT8D93AW	Carries input/output between the Input/Output connector panel and the XSDI port Used for the XSDI card, NT8D41	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	4.9 m (16 ft) 14.6 m (48 ft)
NT8D96AE	Carries input/output between the Input/Output connector panel and the peripheral devices connected to the Meridian MAX	Single DB-25 (male) at the I/O panel's end to three DB-25 (female) connectors	2.4 m (8 ft)
NT7D99AA	Connects as input/output between Meridian MAX and dial-up modem, as well as between Meridian MAX and LDS modem.	25-pin (male) subminiature D-style DB-25 connector to 25-pin (male) subminiature D-style DB-25 connector	3 m (10 ft)

—end—

Table 19-6
External cables and part numbers for Intelligent Peripheral Equipment (IPE) module

ENG Code	Application	Cable and Connector style	Length
NT1R03AA NT1R03BA	Carries input/output information between the Option 11 or Option 21-81 and its peripheral devices (The NT1R03AA also has Ethernet capabilities)	50-pin (female) key telephone connector to four DB-25 (female) connectors (NT1R03AA also has an Ethernet connection)	Four connectors 76 cm (30 in) 69 cm (27 in) 61 cm (24 in) 53 cm (21 in) in ladder shape
NT1R03CA	Extends the connection between the Option 11 and the NT1R03AA and NT1R03BA cables	50-pin (female) key telephone connector to 50-pin (male) key telephone connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 (25 ft) 13.7 m (45 ft)
NT1R03DB NT1R03DC NT1R03DF NT1R03DP NT1R03DV	Extension cable from NT1R03AA and NT1R03BA cables to peripheral devices, HSL port or LML port	DB-25 (male) connector to DB-25 (male) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 (25 ft) 13.7 m (45 ft)
NT1R03EB NT1R03EC NT1R03EF NT1R03EP NT1R03EV	Extension cable from NT1R03AA and NT1R03BA cables to peripheral devices	DB-25 (male) connector to DB-25 (female) connector	61 cm (2 ft) 1.2 m (4 ft) 3 m (10 ft) 7.6 (25 ft) 13.7 m (45 ft)
NT1R03HF	Modem cable from NT1R03AA and NT1R03BA cables to modem	DB-25 (male) connector to DB-25 (male) connector	3 m (10 ft)

—continued—

Table 19-6 (continued)
External cables and part numbers for Intelligent Peripheral Equipment (IPE) module

ENG Code	Application	Cable and Connector style	Length
NT1R03FP NT1R03FV	MDF Extension cable between the Option 11 and Option 21-81 and the NT1R03AA cable	50-pin (female) key telephone connector to 50-pin (male) key telephone connector (with Ethernet tap)	7.6 (25 ft) 13.7 m (45 ft)
NT1R03GP NT1R03GV	MDF Extension cable between the Option 11 and Option 21-81 and the NT1R03BA cable	50-pin (female) key telephone connector to 50-pin (male) key telephone connector	7.6 (25 ft) 13.7 m (45 ft)
NTAK19AA	Carries input/output information between the TDS/DTR card's HSL port on the Option 11 and Port 8 on the NT1R03BA cable	50-pin key telephone connector to two DB-25 (male) connectors	1.8 m (6 ft)
NTAK19BA	Carries input/output information between the SDI/DCH card's HSL port on the Option 11 and Port 8 on the NT1R03BA cable	50-pin key telephone connector to four DB-25 (male) connectors	1.8 m (6 ft)
NT8D93AJ NT8D93AW	Carries input/output information between the HSL port on the Option 21-81 and Port 8 on the NT1R03BA cable	25-pin (male) subminiature D-style connector to 9-pin (female) subminiature D-style connector	4.9 m (16 ft) 14.6 m (48 ft)

—end—

Chapter 20: List of terms

ACD

Automatic call distribution (ACD) provides a means of automatically distributing a company or organization's incoming calls among a number of answering positions (ACD agents). Automatic call distribution is useful in operations where callers want a service rather than a specific person. Calls are serviced in the order they arrive and distributed so that the workload at each answering position is approximately equal.

ACD configuration

The ACD configuration includes the assignments in the Meridian MAX system of agents to queues, of queues to a supervisor, of trunks to routes, and of routes to queues. It also includes the parameters that control recorded announcements, call overflow and interflow, and night service.

ACD-DN

An automatic call distribution - directory number (ACD-DN) is the queue where incoming calls wait until they are answered. Calls are answered in the order in which they entered the queue.

Agent

An agent is a person who answers ACD calls. An agent should be able to provide all the information needed for an ACD call.

AM

The application module (AM) is the card cage that resides within the Application Equipment Module (AEM). The AM support VME-based application products, such as Meridian MAX. Two AMs can fit into each AEM. Each AM has its own power supply.

Application layer

This is a layer within a network communication model. Application programs generate messages to be sent to other applications within the network.

Application upgrade

An application upgrade is the software upgrade procedure you perform when you are installing new features or functionality onto your existing Meridian MAX system without changing the hardware or the operating system.

CDN

A Control Directory Number (CDN) is a special Directory Number (DN) configured in a Meridian 1 system to which no agents are assigned.

Configuration Control

The Configuration Control feature enables a system administrator to make changes to the configuration of the ACD system so that it works more efficiently.

Configuration Control Link

See Load Management Link.

Custom Calculator

Custom Calculator, also referred to as Formula Definition, is an option that allows new formulae to be defined for use in custom reporting and custom displays. These formulas can be used in graphic and tabular report definitions.

Data link layer

This is a layer within a network communication model. It takes application layer messages and sends them over the network.

Default router/gateway address

In the network environment, routers (also called gateways) are used to provide connectivity between two networks.

DID

Direct Inward Dialed

DN key

The directory number (DN) key is the agent's link to the Meridian 1. The agent can make and answer non-ACD calls using the DN key.

DNIS number

In situations where customers can dial one of several telephone numbers, the dialed number information service (DNIS) allows the Meridian MAX system to keep track of the last three or four digits of the telephone number dialed. In this way, one ACD queue can receive calls from several different phone numbers, and agents know which number was dialed and answer each call appropriately.

Formula Definition

See Custom Calculator.

HDC

Historical Data Collection task. This is a task within MAX that collects data from the Meridian 1 and writes the data to the Historical Database.

HSL

High Speed Link. The 9600 baud link that connects the Meridian 1 with the MAX. The Meridian 1 sends call traffic messages to the MAX via this link.

Installation upgrade

An installation upgrade is a Meridian MAX system upgrade that changes the Meridian MAX hardware and/or software. For example, if you change from a Meridian MAX 4 single-module system to a Meridian MAX 7 SNN, both hardware and software change. If you perform an installation upgrade from a Meridian MAX 6 SNN system to a Meridian MAX 7 SNN system, only the software needs to be upgraded.

Interflow

When an ACD-DN cannot handle all the calls coming in, a supervisor can manually activate the interflow feature. This feature allows new calls to the ACD-DN to be rerouted to a predefined destination within the ACD system or to an external number.

IPE

Intelligent Peripheral Equipment

IPE system

A Meridian MAX 7 hardware platform. The Intelligent Peripheral Equipment (IPE) module consists of the following components.

- SMM167 CPU card
- 180-Mbyte, 240-Mbyte, or 1.2-Gbyte hard disk drive and a 155-Mbyte or 600-Mbyte cassette tape drive

LAN

Local area network

Load Management Link

The link through which the Meridian 1 and the Meridian MAX communicate. This link allows the supervisor to send Load Management commands to the switch.

Load new software release

When the Meridian MAX release your system is installed with updates its software, you can perform a load new software release procedure. For example, if you are currently running Meridian MAX 7 SNN Release 07.21 and you need to upgrade to Meridian MAX 7 SNN Release 07.25, you can perform this procedure.

Management reports

Management reports show detailed information on various aspects of an ACD operation. These reports offer valuable information on how well the system configuration is working.

MAX

Micro-auxiliary processor

Meridian 1

Meridian 1 is the private branch exchange (PBX) that handles the calls to and from the organization's ACD system. It routes calls to the various queues and provides the framework for all the ACD features available through Meridian MAX.

MQA

Multiple Queue Assignment (MQA) allows agents to service up to five queues simultaneously. At login, agents can define priorities within the queues and assign themselves to a specific supervisor. They are also able to log into any telephone set, allowing workstations to be shared and changed between agents.

MSI

MAX Status Interface (MSI) allows Meridian MAX to send queue-based statistical data across the LAN to a central real-time load management system. The central system uses the data received from the Meridian MAX and other vendors' ACD systems to manage network traffic.

MTE

Meridian Terminal Emulator (MTE) software is a terminal emulator package designed to run on IBM, or 100% compatible AT or higher, PCs. MTE contains all the functionality of Reflection 4+. It also provides additional features such as local printing to a PC-based supervisor workstation, LAN connectivity for supervisor workstations, and color customization of supervisor workstation screen elements.

MVME

Motorola Versa-Module Eurocard

NAC

Network Administration Center (NAC) is a computerized system that allows organizations with multiple MAX sites, called nodes, to monitor and supervise all sites from one central location.

NACD

Network Automatic Call Distribution (NACD) is an option that allows calls to be overflowed to an ACD-DN in another node in the ACD network.

Node

A Meridian MAX or ACD-MAX system that functions as part of a Network Administration Center (NAC) system.

Overflow

Meridian MAX allows several different overflow thresholds to be defined. When an overflow threshold on a particular ACD-DN is reached calls are routed automatically to an overflow queue where they can then be answered by the next ACD-DN that is defined to receive these overflowed calls and is in a position to accept them.

Platform upgrade

A platform upgrade is an upgrade that involves changes to both Meridian MAX system hardware and software. For example, an upgrade from an ACD-MAX system to a Meridian MAX system is a platform upgrade.

Primary queue

The first queue the agent logs into while working with MQA enabled.

SDA

Supervisor Display Access (SDA) is a Meridian MAX - IPE specific feature that allows another supervisor display via the system console port or remote diagnostics modem port.

SEE system

A Meridian MAX hardware platform consisting of:

- Single application module
- Existing MVME147SA–1 CPU card
- Existing mass storage unit (MSU) containing a 172-Mbyte or 240-Mbyte hard disk and a 155-Mbyte cassette tape drive

Note: Meridian MAX 7 does not support the SEE hardware platform.

SNN system

A Meridian MAX hardware platform consisting of:

- Single application module
- New MVME167–34 CPU card
- New mass storage unit (MSU) containing a 1.2-Gbyte hard disk and a 600-Mbyte cassette drive

STA

Single Terminal Access (STA), available with X11 Release 19 and higher, provides integrated access to operation, administration, and maintenance (OA&M) functions for the systems it monitors.

Statistics group

All the data from the PBX switch is collected into logical groups.

Subnet mask

The subnet mask is a 32-bit number used by the network software on a local machine to determine which bits belong to the network or to the host parts of an internet address. An improper subnet mask can result in high collision rates and reduced network efficiency.

Supervisor

The supervisor is the person who manages agent and queue performance.

System administrator

The system administrator is responsible for overseeing the functions of the Meridian MAX system, including its staff and facilities. In addition to the

functions available to supervisors, the system administrator is usually responsible for the definition of management reports and the printing schedule for these reports. Based on the information these reports provide, the system administrator can reconfigure the system to best use the system's equipment and personnel.

Thresholds

Meridian MAX allows the definition of several different thresholds that pertain to different objectives of your organization. For instance, thresholds can be defined for the maximum length of time a customer's call should wait in queue, how long an agent should spend on each call, and how many calls should be waiting in a queue before other queues should start accepting the overflow.

Trunk routes

Trunks are the physical links, or circuits, that enable telephone communication. A trunk route carries calls from outside the ACD system to an agent or ACD queue.

VME

Versa-Module Eurocard

Index

A

ACD queue. *See* ACD-DN

ACD-DN, maximum, 2-8

Advanced Capacity Configuration, worksheet, 10-10– 10-11

Application Module, 3-16–3-25
  cables, 3-26–3-42
    external input/output
      NT1R03Dx cabling arrangement, 3-33
      NT1R03Ex cabling arrangement, 3-34
      NT7D58Ax cabling arrangement, 3-35, 3-36
      NT7D61Ax cabling arrangement, 3-37
      NT8D93Ax cabling arrangement, 3-38
      NT8D99AA cabling arrangement, 3-39
    input/output, external, 3-30–3-40
    input/output, interconnect, 3-29
    input/output, internal, 3-26–3-28
    VME multi-port cable, 3-41–3-42
  equipment and material list, 3-2
  hardware replacements, 3-43–3-62
    configuring the MVME167–34 SBC card, 3-48–3-62
    replacing the MVME167–34 SBC card, 3-46–3-47
  hardware upgrades, 3-43–3-62
    adding MVME332XTS/XT cards to a system, 3-44–3-46
  input/output panels, 3-20–3-21
  input/output port assignments, 3-22–3-25
  installation, 3-17–3-25
  overview, 3-1–3-6
    single board computer cards, 3-7–3-9
  tape label, 3-20–3-25

Automatic backup, 1-7

B

Backups, 11-5

Basic Capacity Configuration, worksheet, 10-8– 10-9

C

Cables
  Application Module, 3-26–3-42
    external input/output
      NT1R03Dx cabling arrangement, 3-33
      NT1R03Ex cabling arrangement, 3-34
      NT7D58Ax cabling arrangement, 3-35, 3-36

NT7D61Ax cabling arrangement, 3-37
NT8D93Ax cabling arrangement, 3-38
NT8D99AA cabling arrangement, 3-39
input/output, external, 3-30–3-40
input/output, interconnect, 3-29
input/output, internal, 3-26–3-28
VME multi-port cable, 3-41–3-42
IPE module, 4-33– 4-42
external input/output
NT1R03Dx cabling arrangement, 4-35
NT1R03Ex cabling arrangement, 4-36
NT1R03HF cabling arrangement, 4-37
input/output, external, 4-33– 4-37
NT1R03AA four-port I/O cable, 4-38–4-42
NT1R03BA four-port I/O cable, 4-38–4-42
Option 11
cabling to peripherals through a Main Distribution Frame (MDF), 4-30– 4-32
input/output, 4-11– 4-14
Option 21–81
cabling to peripherals through a Main Distribution Frame (MDF), 4-30– 4-32
input/output, 4-17– 4-19
rerouting for CE/PE and IPE modules, 4-20– 4-27
NT9D8001, cabling arrangement, 5-68
NT9D9007, cabling arrangement, 5-77

Cables and part numbers, Intelligent Peripheral Equipment (IPE) module, 19-6, 19-7

Capacities, 2-7–2-17
hardware-dependent, 2-9–2-17
Application Module, 2-10–2-13
IPE module, 2-14–2-17
platform, 2-7–2-8
IPE platform, 2-8
SNN platform, 2-7–2-8
printer, 2-21

Capacity Configuration, 2-18–2-20, 10-4–10-11
accessibility, 10-5
configuring the system database, 10-6–10-7
modifying system capacities, 10-7
new system database, 10-6
previously existing database, 10-7
system reconfiguration, 10-7
functionality, 10-5
historical database, 10-5– 10-6
screens
Advanced Capacity Configuration, 2-20
Basic Capacity Configuration, 2-20
worksheets, 10-8– 10-11
Advanced Capacity Configuration, 10-10– 10-11
Basic Capacity Configuration, 10-8–10-9

Code Page 850, Meridian Terminal Emulator (MTE), international language support, 6-15

Configuration
port assignment, 10-2– 10-58
port assignments
fixed, 10-2– 10-58
required, 10-2– 10-58
retained, 10-3– 10-58

Connector panels
Application Module, generic input/output, 3-21
IPE module
CE/PE cabinet input/output, 4-31
IPE cabinet input/output, 4-32

Conventions, xxiii–xxiv

D

DEC LA195i, printer, 7-7–7-8

Develcon DS 511A, limited distance connection, 5-62– 5-73

Dialing plans, 2-22–2-24
seven-digit CDP, 2-22–2-23
NACD routing tables with CDP and UDP, 2-24
UDP, 2-23

F

Field replaceable parts, 19-1
Application Module, 19-1
IPE module, 19-2

G

Gandalf LDS 120E, limited distance connection, 5-62– 5-73
DIP switch settings, 5-69– 5-70
Meridian MAX end, 5-71– 5-73
NAC 1 end, 5-70– 5-71
NAC 2 end, 5-70

H

Hardware
dependent capacities, 2-9–2-17
Application Module, 2-10–2-13
IPE module, 2-14–2-17
installation checklist, 18-1– 18-2
overview, 1-4–1-5
platform, 2-7–2-8
SNN platform, 2-7–2-8
platform capacities, IPE platform, 2-8
platforms, 1-1, 11-2
replacements
Application Module, 3-43–3-62
configuring the MVME167–34 SBC card, 3-48–3-62
replacing the MVME167–34 SBC card, 3-46–3-47
IPE module, 4-49– 4-56
configuring the SMM167 card, 4-51–4-54
SMM167 card jumper settings, 4-55–4-56
upgrades
Application Module, 3-43–3-62
adding MVME332XTS/XT cards to a system, 3-44–3-46
IPE module, 4-43– 4-48
performing the hardware upgrade, 4-44– 4-48

Hewlett-Packard printers, 7-1–7-16
DeskJet, 7-16
DeskJet 500, 7-16
DeskJet 560C, 7-16
DeskJet 660C, 7-16
LaserJet series 4 Plus, 7-11–7-15

LaserJet series II, 7-11–7-15
LaserJet series III, 7-11–7-15
LaserJet series IV, 7-11–7-15
PaintJet 3630, 7-16
Rugged Writer, 7-9–7-10

High-Speed Link (HSL), configuration
Meridian 1, 15-20
Option 11, 15-31

I

Installation checklists, 18-1
hardware installation, 18-1– 18-2
operating modes, 18-3– 18-4
site preparation, 18-1
software installation, 18-3

Installation process, 1-2–1-3

Installation responsibilities, 1-3

Installation tapes, software, 11-8– 11-12

International language support
keyboard configuration, 6-14
Meridian Terminal Emulator (MTE), Code Page 850, 6-15

IPE module
cables, 4-33– 4-42
external input/output
NT1R03Dx cabling arrangement, 4-35
NT1R03Ex cabling arrangement, 4-36
NT1R03HF cabling arrangement, 4-37
input/output, external, 4-33– 4-37
NT1R03AA four-port I/O cable, 4-38– 4-42
NT1R03BA four-port I/O cable, 4-38– 4-42
equipment and material list, 4-4
hardware replacements, 4-49– 4-56
hardware upgrades, 4-43– 4-48
performing the hardware upgrade, 4-44– 4-48
LEDs, 4-2
Option 11, 4-11– 4-16
input/output cables, 4-11– 4-14
input/output port assignments, 4-15– 4-16
SDI configurations, 8-3
Option 21–81, 4-17– 4-32
input/output cables, 4-17– 4-19
input/output port assignments, 4-28– 4-29
SDI configurations, 8-3–8-10

K

Keycodes, 11-2

L

LAN connectivity, 9-1
customer-supplied hardware, 9-5
Meridian Terminal Emulator (MTE) 5.32 or lower, 9-5
customer-supplied software, 9-6
functionality, 9-8– 9-10
default router/gateway address, 9-9– 9-10
hostnames, 9-9– 9-10
IP addresses, 9-9– 9-10
Meridian MAX connectivity, 9-8– 9-10
Meridian MAX setup, 9-10
network interface cards, 9-10
subnet mask, 9-9– 9-10
token ring environment, 9-8– 9-10
installing PC/TCP, 6-7
MAX Status Interface (MSI), 9-2– 9-3
MTE 5.32 or lower, 9-3– 9-4
MTE 6, 9-3

MTE 7, 9-3
packet buffers, 6-7

Leading zeros, 1-10

Load Management Link (LML), configuration
Meridian 1, 15-24
Option 11, 15-34

Load new software release, 11-3

Local Area Network (LAN), local printers, maximums, 2-10, 2-14

Local printers, maximums, 2-10, 2-14

Local printing, installation, 7-2–7-16

M

Main Distribution Frame (MDF), IPE module
Option 11, cabling to peripherals, 4-30–4-32
Option 21–81, cabling to peripherals, 4-30– 4-32

Mass Storage Unit (MSU), installation, 3-19

MAX Status Interface (MSI), 9-2– 9-3

Mean Time Between Failures (MTBF), 1-8–1-9

Meridian MAX
leading zeros, 1-10
power-down procedure, 17-1
system performance, 1-6–1-7
system reliability, 1-7–1-9

Meridian MAX - IPE 7
new software installation
customer-installed, 12-37– 12-58
factory-installed, 12-59– 12-70
software re-installation or upgrade, 14-31– 14-60

Meridian MAX 7 SNN
new software installation
customer-installed, 12-2– 12-36
factory-installed, 12-24– 12-36
software re-installation or upgrade, 14-2–14-30

Meridian Terminal Emulator (MTE), 6-3–6-16
configuration, Code Page 850, 6-15
functionality, 6-3–6-5
installation requirements
DOS, 6-4
Windows, 6-4–6-16
LAN connection, 6-6–6-7
MTE 5.32 or lower, 6-5–6-7, 9-3– 9-4
exiting MTE, 6-10
installation, 6-8–6-10
installing PC/TCP, 6-7
starting MTE, 6-10
MTE 5.32 or lower with O/S 2.1, 6-13–6-14
minimum requirements, 6-13–6-14
multiple session limitations, 6-14
MTE 5.32 or lower with Windows 3.1, 6-10–6-13
minimum requirements, 6-12
multiple session limitations, 6-13
PIF file settings, 6-10–6-12
MTE 6, 6-3, 9-3
MTE 7, 6-3, 9-3
packet buffers, 6-7
RS-232 connection, 6-6

Meridian Terminal Emulator (MTE) 5.32 or lower
customer-supplied hardware, 9-5– 9-7
packet buffers, 9-7– 9-8
PC setup, 9-6– 9-7

Modems, 5-1– 5-7
cables, 5-5– 5-6

dial-up, 5-14
dial-up supervisor, 5-37– 5-58
NetComm SmartModem M7F, 5-39– 5-41
Racal VI2422PA, 5-42– 5-43
UDS 2440, 5-44– 5-45
UDS EC224A/D 2400, 5-46– 5-62
Ven-Tel 2400 Plus II, 5-50– 5-53
Ven-Tel 9600 Plus, 5-54– 5-58
remote diagnostic, 5-15– 5-36
NetComm SmartModem M7F, 5-18– 5-20
Racal VI2422PA, 5-21– 5-23
UDS 2440, 5-24– 5-34
UDS EC224A/D 2400, 5-35– 5-36
limited-distance, 5-7– 5-13
Develcon DS511A, 5-7– 5-13
Gandalf LDS 120E, 5-7– 5-13

MSDL configurations for HSL and LML, 8-5–8-10

Multiple Queue Assignment (MQA), requirements, 2-7

MVME167–34 SBC card
configuration, 3-48–3-62
LEDs, 3-7
replacements, 3-46–3-47

MVME332XTS/XT eight-channel asynchronous boards, 3-12–3-15
adding cards to a system, 3-44–3-46
S1 switch settings, 3-14
switch locations, 3-15

MVME712M transition card, jumper switch settings, 3-11

N

NAC connectivity, 5-59– 5-62
dial-up modems
Meridian MAX end, 5-74
NAC 1 end, 5-74
NAC 2 end, 5-74
dial-up connection, 5-74– 5-94
network link, 5-81– 5-94
NetComm SmartModem M7F, 5-81– 5-83
Racal VI2422PA, 5-93– 5-94
UDS 2440, 5-84– 5-85
Ven-Tel 2400 Plus II, 5-86– 5-89
Ven-Tel 9600 Plus, 5-90– 5-92
remote supervisor login, 5-77– 5-80
NetComm SmartModem M7F, 5-77– 5-78
Racal VI2422PA, 5-79
UDS 2440, 5-78
UDS EC224A/D 2400, 5-79– 5-80
Ven-Tel 2400 Plus II, 5-78
Ven-Tel 9600 Plus, 5-79
direct connection, 5-96– 5-98
Meridian MAX end, 5-96– 5-98
NAC 1 end, 5-96
NAC 2 end, 5-96
limited distance connection, 5-62– 5-73
remote supervisor login or network link
Develcon DS 511A, 5-62– 5-73
Gandalf LDS 120E, 5-62– 5-73
T1 connection, 5-95– 5-96

NetComm SmartModem M7F
dial-up supervisor modem, 5-39– 5-41
network link, 5-81– 5-83
remote diagnostics modem, 5-18– 5-20
remote supervisor login, 5-77– 5-78

O

Operating modes
installation checklist, 18-3– 18-4
precutover, 16-5– 16-20
product, 16-21– 16-38
training, 16-3– 16-4

Option 11, SDI configurations, 8-3

Option 21–81, SDI configurations, 8-3–8-10

Overview
  Application Module, 3-1–3-6
    single board computer cards, 3-7–3-9
  hardware, 1-4–1-5
  IPE module, 4-1– 4-10
  software, 1-5–1-6
    installation upgrade, 1-5–1-6
    new installation, 1-5

P

Port assignment, 10-2– 10-58
  fixed, 10-2
  required, 10-2
  retained from upgrades, 10-3, 11-5

Position Sizing, 2-8–2-9

Power
  failure, 1-7
  requirements, 2-1–2-3

Power supply, installation, 3-19–3-62

Power-down procedure, 17-1

Precutover mode, 16-5– 16-20

Printer capacities, 2-21

Printers
  DEC LA195i, 7-7–7-8
  Hewlett-Packard, 7-1–7-16
    DeskJet, 7-16
    DeskJet 500, 7-16
    DeskJet 560C, 7-16
    DeskJet 660C, 7-16
    LaserJet series 4 Plus, 7-11–7-15
    LaserJet series II, 7-11–7-15
    LaserJet series III, 7-11–7-15
    LaserJet series IV, 7-11–7-15
    PaintJet 3630, 7-16
    Rugged Writer, 7-9–7-10
  serial-parallel converter, 7-5
  site layout, 2-6

Product mode, 16-21– 16-38

R

Racal VI2422PA
  dial-up supervisor modem, 5-42– 5-43
  network link, 5-93– 5-94
  remote diagnostics modem, 5-21– 5-23
  remote supervisor login, 5-79

Reentry points, software installation, 11-7–11-8

Reflection 4+, 6-3
  installation
    with hard disk, 6-3
    without hard disk, 6-3

Replacements, hardware
  Application Module, 3-43–3-62
  IPE module, 4-49– 4-56
    configuring the SMM167 card, 4-51–4-54
    SMM167 card jumper settings, 4-55–4-56

Requirements
  environmental, 2-3–2-4
    Meridian MAX - IPE module, 2-4
    Meridian MAX application module, 2-3
  power, 2-1–2-3
  X11 software packaging, 2-4–2-5

Routes, maximum, 2-8

S

SDI configurations, 8-1–8-4
Application Module, 8-1–8-2
IPE module, 8-3–8-10
Option 11, 8-3
Option 21–81, 8-3–8-10

Serial-parallel converter, 7-5

Service interruptions, to avoid, 7-6

Single Terminal Access (STA), configuration, 15-11– 15-19

Site layout, 2-5–2-7
Meridian Terminal Emulator (MTE), 2-7
printer location, 2-6
static electricity precautions, 2-6
supervisor location, 2-6

SMM167 card
configuring the SMM167 card, 4-51– 4-54
jumper settings, 4-55– 4-56

Software
configuration
High-Speed Link (HSL), 15-20, 15-31
Load Management Link (LML), 15-24, 15-34
installation, new SNN or IPE, 11-3
installation checklist, 18-3
installation reentry points, 11-7– 11-8
installation tapes, 11-8– 11-12
installation upgrades
from ACD-MAX 3 and 4 systems, 11-5
from Meridian MAX 3 through 6, or ACD-D systems, 11-5
Meridian MAX - IPE 7, 14-31– 14-60
Meridian MAX 7 SNN, 14-2– 14-30
retained port assignments, 10-3, 11-5
load new release, 11-3
load new software
IPE, 13-18– 13-32
SNN, 13-2– 13-32
new installation of Meridian MAX - IPE 7
customer-installed, 12-37– 12-58
factory-installed, 12-59– 12-70
new installation of Meridian MAX 7 SNN
customer-installed, 12-2– 12-23
factory-installed, 12-24– 12-36
operating modes
precutover, 16-5– 16-20
product, 16-21– 16-38
training, 16-3– 16-4
overview, 1-5–1-6
installation upgrade, 1-5–1-6
new installation, 1-5
re-installation
Meridian MAX - IPE 7, 14-31– 14-60
Meridian MAX 7 SNN, 14-2– 14-30
re-installations and upgrades, within Meridian MAX 7, 11-4

Static electricity precautions, 2-6

System
performance, 1-6–1-7
reliability, 1-7–1-9
automatic backup, 1-7
mean time between failures (MTBF), 1-8–1-9
power failure, 1-7

System configuration, 10-1– 10-58

T

Training mode, 16-3– 16-4

Transition cards, 3-10–3-11
MVME712M, 3-10
NT6D51AA, 3-10–3-16

Trunks, maximum, 2-8

U

UDS 2440
dial-up supervisor modem, 5-44– 5-45
network link, 5-84– 5-85
remote diagnostics modem, 5-24– 5-34
remote supervisor login, 5-78

UDS EC224A/D 2400
dial-up supervisor modem, 5-46– 5-49
remote diagnostics modem, 5-35– 5-36
remote supervisor login, 5-79– 5-80

Upgrades, hardware
Application Module, 3-43–3-62
IPE module, 4-43– 4-48
performing the hardware upgrade, 4-44– 4-48

V

Ven-Tel 2400 Plus II
dial-up supervisor modem, 5-50– 5-53
network link, 5-86– 5-89
remote supervisor login, 5-78

Ven-Tel 9600 Plus
dial-up supervisor modem, 5-54– 5-58
network link, 5-90– 5-92
remote supervisor login, 5-79

VT520 terminal, Main Set-Up window, 6-17

W

Warranties, 3-1, 4-1, 11-1

Workstations, 6-1–6-2
configuration, 15-2– 15-10
HP 700/32 VDT, set-up, 6-30–6-34
personal computer, 6-2–6-14
keyboard configuration, 6-14–6-16
Meridian Terminal Emulator (MTE), 6-3–6-16
functionality, 6-3–6-5
installation requirements, 6-4–6-5
MTE 5.32 or lower, 6-5–6-7
MTE 5.32 or lower with O/S 2.1, 6-13–6-14
MTE 5.32 or lower with Windows 3.1, 6-10–6-13
Reflection 4+, 6-3
PC with hard disk, 6-3
PC without hard disk, 6-3
Single Terminal Access (STA), configuration, 15-11– 15-19
video display terminal (VDT), 6-16–6-34
HP 700/32, 6-30
VT220 or 100% compatible, 6-28–6-29
VT420 or 100% compatible (North American model), 6-24–6-25
VT420 or 100% compatible (Worldwide model), 6-26–6-27
VT520 or 100% compatible, 6-16–6-23

NORTEL
NORTHERN TELECOM

Reader's Response Form for

Meridian MAX
***Installation Guide*, 553-4001-111,**
November 1995

Tell us about yourself:

Name: _____ **Date:** _____

Company: _____

Address: _____

_____

Occupation: _____ **Phone:** _____

1. What is your level of experience with this product?

   ❑ New user ❑ Intermediate ❑ Experienced ❑ Programmer

2. How do you use this book?

   ❑ Learning ❑ Procedural ❑ Problem solving ❑ Reference

3. Did this book meet all of your needs?

   ❑ Yes ❑ No

   If you answered **No** to this question, please answer the following questions.

4. What chapters, sections, or procedures did you find hard to understand?

   _____

   _____

   _____

5. What information (if any) was missing from this book?

   _____

   _____

   _____

6. How could we improve this book? (For example, books can also be evaluated in many other ways, including: ease of information retrieval, presentation, and use of reading aids, such as diagrams.)

   _____

Please return your comments by fax to (416) 597-7104, or mail your comments to: Customer Documentation, Nortel, 522 University Ave., 12th Floor, Toronto, Ontario, Canada M5G 1W7.

NORTEL
NORTHERN TELECOM

Reader's Response Form

Electronic Private Automatic Branch Exchange and
Business Communication Systems

Meridian MAX

Installation Guide

Customer Documentation
Nortel
522 University Avenue, 12th Floor
Toronto, Ontario, Canada
M5G 1W7

© 1995 Northern Telecom

All rights reserved

Information is subject to change without notice. Northern Telecom reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

Nortel, Meridian, Meridian MAX, Meridian MAX - IPE, ACD-MAX, Meridian 1, SL-1, and Meridian Terminal Emulator are trademarks of Northern Telecom. Compaq is a trademark of Compaq Computer Corporation. DEC, VT220, VT420, and VT520 are trademarks of Digital Equipment Corporation. HP, HP Vectra, RuggedWriter, DeskJet, LaserJet, and PaintJet are trademarks of Hewlett-Packard Company. IBM, PC, AT, and IBM PS/2 are trademarks of International Business Machines Incorporated. Windows and MS/DOS are trademarks of Microsoft Corporation. Ven-Tel and the Ven-Tel logo are trademarks of Ven-Tel Incorporated. TEAC is a trademark of TEAC Corporation. UDS and SYSTEM V/68 are trademarks of Motorola Incorporated. UNIX is a registered trademark of AT&T. Reflection is a registered trademark of Walker Richer & Quinn, Inc. Ethernet is a registered trademark of Xerox. Gandalf is a registered trademark of Gandalf Technologies Inc. Racal is a registered trademark of Racal Data Communications Incorporated.

Publication number:	553-4001-111
Product release:	7
Document release:	Standard 1.0
Date:	November 1995

Printed in the United States of America

NORTEL
NORTHERN TELECOM

553–3201–200

Meridian 1

Application Equipment Module

Installation guide

Standard 1.0 April 1993

Meridian 1

Application Equipment Module

Installation guide

Publication number: 553-3201-200
Document Status: Standard 3.0
Date: April 1993

Copyright © Northern Telecom 1991, 1992, 1993
All rights reserved.

Information is subject to change without notice. Northern Telecom reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

Meridian 1 and SL-1 are trademarks of Northern Telecom. UNIX is a trademark of AT&T. Motorola is a trademark of the Motorola Corporation. MVME products are trademarked by the Motorola Corporation.

Contents

Overview 1
AEM components 2
Stand-alone components 3
Pedestal 3
Top cap 3
Temperature requirements 4
Equipment handling precautions 5

Installing a stand-alone AEM 7
Unpack and level the AEM column 7
Power connections (ac) 9
Power connections (dc) 13
Alarm connections 22
Alarm connections with Meridian 1 systems 22
Alarm connections with ST or RT systems 25
ST system with a QCA136 cabinet 26
ST system with QCA136 and QCA137 cabinets 28
RT system with a QCA147 cabinet 31
RT system with QCA147 and QCA137 cabinets 33
RT system with QCA147 and two QCA137 cabinets 36
Alarm connections with NT or XT systems 39

Adding an AEM to a column 43
Adding an AEM to the base of a column 46
Adding an AEM between two other modules 47
Adding an AEM to the top of a column 48

Removing an AEM 53
Ordering 55
Ordering information 55
Component failure rates 56

Glossary 57

Index 59

List of figures

Figure 1 AEM with Application Modules—front view 2
Figure 2 Static discharge points 6
Figure 3 Locking latches on the AEM 8
Figure 4 Pedestal grill 8
Figure 5 PDU connections 10
Figure 6 Meridian 1/AEM column daisy chain connection 11
Figure 7 AEM Logic return connection—LRTN/GND common connection for stand-alone column 12
Figure 8 AEM Logic return connection—LRTN isolated star connection for a multi-column row 12
Figure 9 Direct wiring connection—Meridian 1 to AEM 15
Figure 10 Backplane cover 16
Figure 11 Pedestal to NT6D82 connections 19
Figure 12 Pedestal to QBL12 or QCA13 connections 20
Figure 13 Pedestal to QBL15 connections 21
Figure 14 Alarm connections to ST with a QCA136 cabinet 27
Figure 15 Alarm connections to ST with QCA136 and QCA137 cabinets 30
Figure 16 Alarm connections to RT with a QCA147 cabinet 32
Figure 17 Alarm connections to RT with QCA147 and QCA137 cabinets 35
Figure 18 Alarm connections to RT with QCA147 and two QCA137 cabinets 38
Figure 19 NT8D22 System Monitor connections to a QPC84 Power Monitor 41
Figure 20 NT8D22 System Monitor connections to a QPC173 Power Monitor 42

Figure 21 Module-to-module power and system monitor connections 44
Figure 22 Module mounting bolts 45
Figure 23 Module positioning guides 45
Figure 24 Module power harness power connector 48
Figure 25 System monitor cable at connector J2 48
Figure 26 Removing the air exhaust grill 49
Figure 27 Cable well for wiring 50
Figure 28 Alignment tab on connector 51
Figure 29 Top cap assembly 52

List of procedures

Procedure 1 Power connections (ac) 9
Procedure 2 Power connections (dc) 15
Procedure 3 Alarm connections 22
Procedure 4 ST system with QCA136 cabinet connections 26
Procedure 5 ST system with QCA137 cabinet connections 28
Procedure 6 RT system with QCA147 cabinet connections 31
Procedure 7 ST system with QCA147 and QCA137 cabinet connections 33
Procedure 8 RT system with QCA147 and two QCA137 cabinet connections 36
Procedure 9 NT or XT system with QPC84 or QPC173 cabinet connections 39
Procedure 10 Adding an AEM to the base of a column 46
Procedure 11 Adding an AEM between two other modules 47
Procedure 12 Add an AEM to the top of a column 48

List of tables

Table 1 Pedestal wire gauge requirements with two 30-amp 48 V dc feeds (see Note 1) 14
Table 2 NT8D22 switch settings (set as slave) for operation with Meridian 1 22
Table 3 SW2 positions 3 – 8—unit number for the slave 24
Table 4 ST/RT alarm connection hardware requirements 25
Table 5 NT8D22 switch settings (set as master) for operation with ST 26
Table 6 NT8D22 switch settings (set as master) for operation with ST 28

Table 7 NT8D22 switch settings (set as master) for operation with RT 31
Table 8 NT8D22 switch settings (set as master) for operation with RT 33
Table 9 NT8D22 switch settings (set as master) for operation with RT 36
Table 10 NT8D22 switch settings (set as master) for operation with NT or XT 39
Table 11 Field-replaceable items 55
Table 12 Component failure rates 56

Overview

Application Module hardware is based on Meridian 1 modular packaging. The basic unit of the modular package is the Universal Equipment Module (UEM), which is a modular, self-contained hardware cabinet that houses a card cage with a power supply, backplane, circuit cards, and other basic equipment. When the UEM is equipped, it generally supports a system function and becomes a specific type of module, such as a CPU Module or Intelligent Peripheral Equipment (IPE) Module.

The term "Meridian 1" is used throughout this document, and refers to Meridian 1 and "Meridian 1–ready" systems (such as Meridian SL-1 style cabinets that have been upgraded). See *Applications Module overview guide* (553–3201–110) for further information on Application Module requirements.

In addition, the UEM houses the card cage that supports the Application Equipment Module (AEM). When this card cage is installed, the UEM functionally becomes an AEM. There are two versions of the AEM:

- NT7D18AA for ac-powered systems
- NT7D18AB for dc-powered systems

Application Modules, such as the Meridian Link Module, are housed in the AEM. Each AEM can accommodate up to two Application Modules. (If only one Application Module is installed, a blank panel covers the rest of the AEM to channel air flow for cooling.)

An AEM with a standard Meridian 1 pedestal and top cap can be configured as a stand-alone column. In this configuration, the AEM can interface with:

- Meridian 1 system options 11, 21, 51, 61 or 71.

- Meridian SL-1 systems (upgraded) capable of operating on Generic X11 Release 16, or later, software.

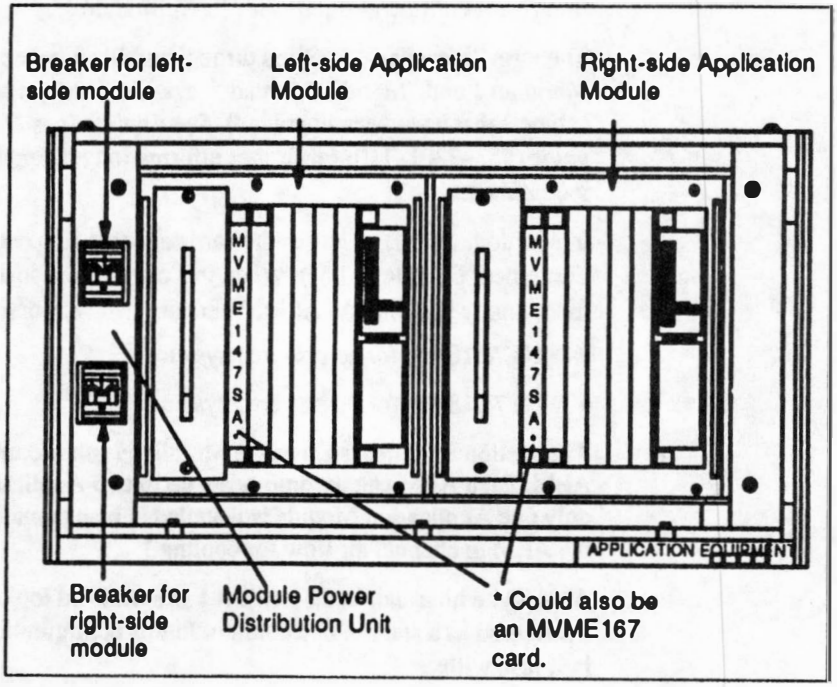
An individual AEM can be placed in a column with other Meridian 1 modules in system options 21, 51, 61 or 71. This document explains how to install a stand-alone AEM and add an AEM to a Meridian 1 column.

AEM components

The AEM is equipped with a Module Power Distribution Unit (MPDU) on the left (looking at the front of the AEM).

The MPDU provides two circuit breakers (see Figure 1). The top breaker controls power to the left Application Module (the one closer to the MPDU). The bottom breaker controls power to the second Application Module (on the right of the AEM).

Figure 1
AEM with Application Modules—front view



Stand-alone components

A stand-alone configuration consists of a pedestal, an AEM, and a top cap.

Pedestal

The pedestal houses a blower unit, an air filter, and the Power Distribution Unit (PDU). The PDU, which distributes power to the entire column, contains the field wiring terminal block, the main circuit breaker (or breakers) for the column, and a slot that houses the system monitor.

The pedestal weighs 13.6 kg (30 lbs) when empty, and the dimensions are:

- 812 mm (32 in.) wide
- 660 mm (26 in.) deep
- 254 mm (10 in.) high

There are two versions of the pedestal:

- NT8D27 for ac-powered systems
- NT7D09 for dc-powered systems

Top cap

The top cap provides airflow exits, input/output (I/O) cable entry and exit, and overhead cable-rack mounting. Thermal sensor assemblies for the column are attached to a perforated panel on top of the highest module in the column, under the top cap.

The top cap weighs 3.6 kg (8 lbs) and the dimensions are:

- 812 mm (32 in.) wide
- 558 mm (22 in.) deep
- 101 mm (4 in.) high

There are two versions of the top cap:

NT7D00AA for ac-powered systems

NT7D00BA for dc-powered systems

Temperature requirements

The recommended ambient temperature differs depending in which tier that the AEM is placed. The following is the maximum ambient temperature for each operating tier:

- 1st tier: 35 degrees C (95 degrees F)
- 2nd tier: 30 degrees C (86 degrees F)
- 3rd tier: 25 degrees C (77 degrees F)
- 4th tier: 20 degrees C (68 degrees F)

The recommended ambient temperature range for an AEM is:

- 10 to 35 degrees C (50–95 degrees F)

The maximum allowable ambient temperature is:

- 45 degrees C (113 degrees F)

CAUTION
Equipment failure
If room temperature remains outside the recommended operating temperature for 72 hours, the disk or tape drive can fail to operate.

If the room temperature frequently drops below or goes above the recommended operating temperature, even though it does so for less than 72 hours each time, the same failure may occur.

Equipment handling precautions

To avoid personal injury and equipment damage, read the following guidelines before handling equipment.

DANGER
Risk of personal injury
A fully loaded module weighs approximately 58.9 kg. (130 lbs). Get help when moving modules.

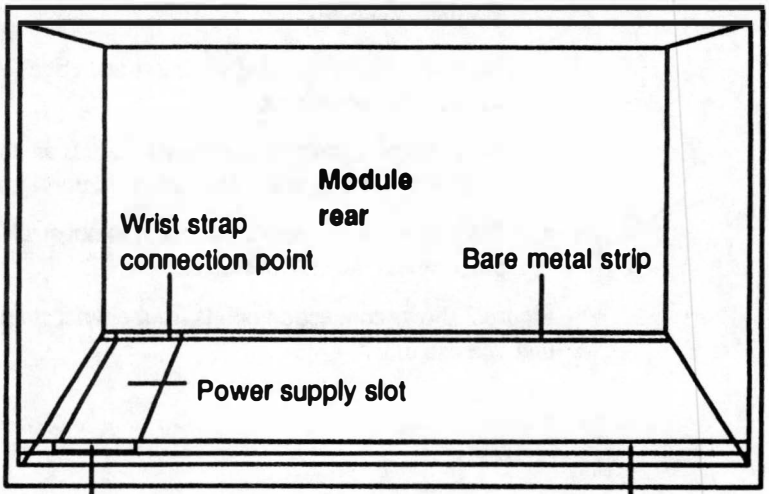
Use the following guidelines to handle circuit cards:

- Do not unpack or handle cards near electric motors, transformers, or similar machinery.
- Handle cards by the card stiffeners and edges only. Do not touch the contacts or components.
- Set cards on a protective antistatic bag. If an antistatic bag is not available, hand-hold the card, or set it, unseated, in a card cage.
- Store cards in protective packing. Do not stack cards on top of each other unless they are packaged.

Figure 2 shows connection points for the wrist strap and the metal strips that you can touch.

CAUTION
Equipment damage
To avoid damage from static discharge, wear an antistatic wrist strap when you work on AEM equipment. If a wrist strap is not available, regularly touch one of the bare metal strips in the AEM.

Figure 2
Static discharge points



Installing a stand-alone AEM

For proper installation, perform the steps in the following procedures in the order given.

Unpack and level the AEM column

1 Remove the AEM column from the shipping pallet; follow the unpacking instructions that come with the packaging material.

2 Remove the front and rear covers from the AEM:

   a. Turn the two locking latches (see Figure 3) clockwise with a standard screwdriver.

   b. Push the latches toward the center of the cover and pull the cover towards you while lifting it away from the module.

   c. Set the covers aside until the installation is complete.

WARNING
Risk of equipment damage
Module covers are not hinged; do not let go of the cover. Lift the cover away from the module and set it out of your work area.

3 Remove the front and rear grills from the pedestal (see Figure 4). Set the grills aside until the installation is complete.

4 Inspect all equipment for physical damage; report any to your supplier.

5 Adjust the feet on the pedestal to level the column (turn the leveling foot clockwise to raise it).

   Note 1: You must leave at least 12.7 mm (1/2 in.) between the floor and the bottom of the pedestal for air flow required by the cooling unit.

Note 2: If the column is to be bolted to the floor for earthquake bracing, follow the procedure for earthquake bracing in *System Installation procedures* (553–3001–210).

6 Go to the procedure for "Power connections (ac)" or "Power connections (dc)" as appropriate to connect ground and power wiring.

Figure 3
Locking latches on the AEM

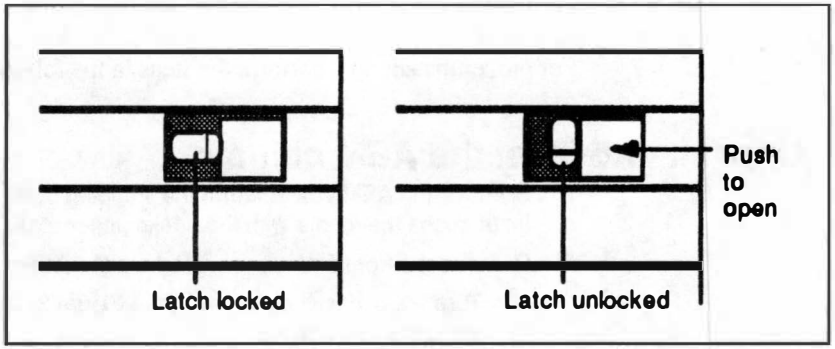
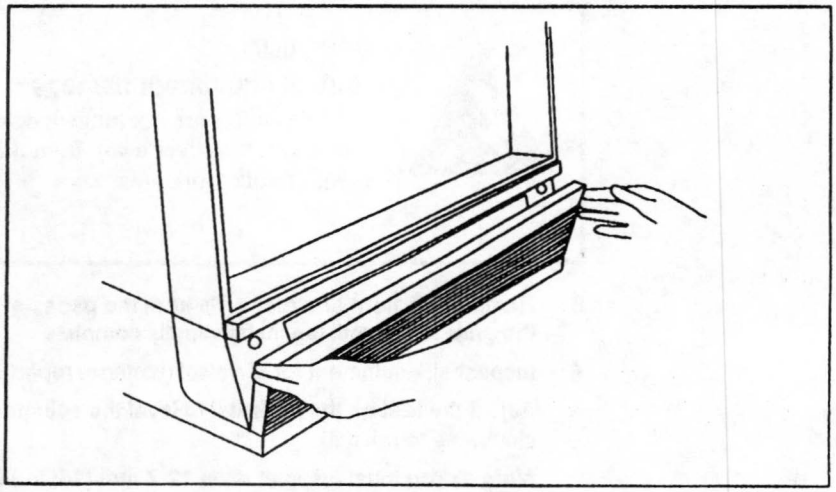


Figure 4
Pedestal grill



Power connections (ac)

One IG-L6-30 or L6-30 receptacle must be within 2.4 m (8 ft) of the pedestal. Instead of using the power plug provided, you can hard-wire the PDU to the power source. In this case, you should use #10 AWG conductors routed through 3/4-inch conduit. Connect the leads to the L1, L2, and GND terminations on the field wiring terminal block on the PDU.

Use a separate safety ground. The safety ground must be #6 AWG or larger and must connect the pedestal to the service panel ground bus. Depending on the distances between columns and the service panel, you may run safety ground wiring independently from the AEM column to the service panel, or you may daisy-chain the safety ground wiring between the AEM column and the Meridian 1.

DANGER
Risk of equipment damage
Failure to follow grounding procedures can result in an unsafe or faulty system.

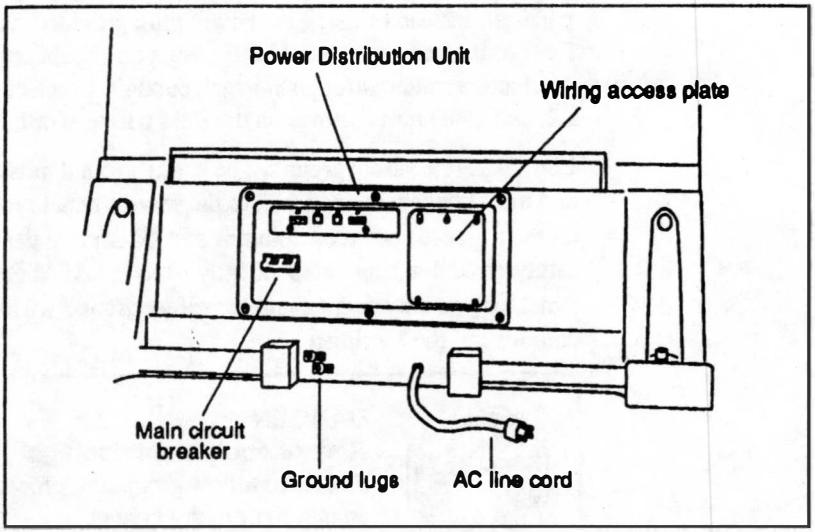
Procedure 1
Power connections (ac)

1 Make sure the power cord is disconnected from the power source.

2 Measure the resistance between the ground pin on the power plug and a ground lug on the rear of the pedestal.

See Figure 5. The resistance should be zero ohms. If the resistance is greater than .5 ohms, check the power cord connections.

Figure 5
PDU connections



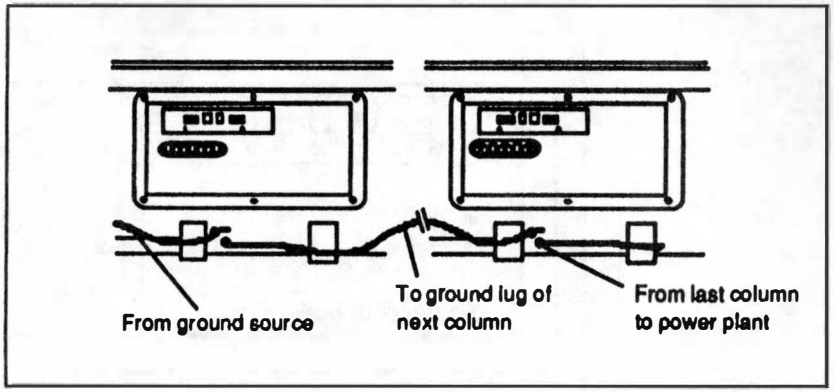
3 Connect the safety ground wire.

Use insulated ground wire for system grounding.

For a direct connection, connect a #6 AWG wire from the ground source in the service panel to a ground lug on the pedestal of the AEM column.

For a daisy-chain connection, connect a #6 AWG wire from a ground lug on the closest Meridian 1 column or cabinet to a ground lug on the pedestal of the AEM column.

Figure 6
Meridian 1/AEM column daisy chain connection



4 Measure the resistance between the ground pin on the power plug and the ground terminal on the power outlet.

The resistance should be zero ohms. If the resistance is greater than .5 ohms, check the power outlet ground and safety ground connections.

5 Remove the field wiring access plate on the PDU.

6 Connect logic return wiring.

For a stand-alone column, make sure the logic return wiring, a 3-inch shorting strap, #10 AWG or larger, connects the LRTN and GND terminals on the field wiring block (see Figure 7).

For a multi-column row, connect a #8 AWG wire from the Logic Return Equalizer (LRE) (used with the Meridian 1) to LRTN on the field wiring block (see Figure 8).

7 Replace the field wiring access plate on the PDU.

8 Go to the appropriate procedure in "Alarm connections" to configure and connect the NT8D22 System Monitor in the AEM column.

Figure 7
AEM Logic return connection—LRTN/GND common connection for stand-alone column

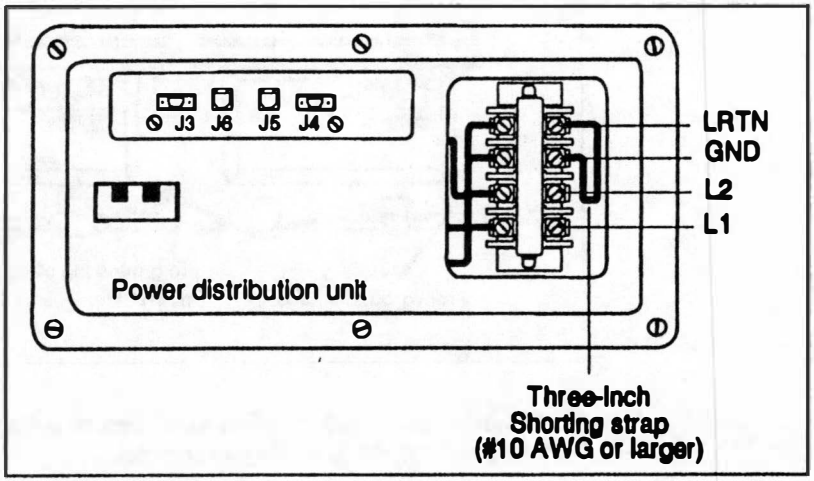
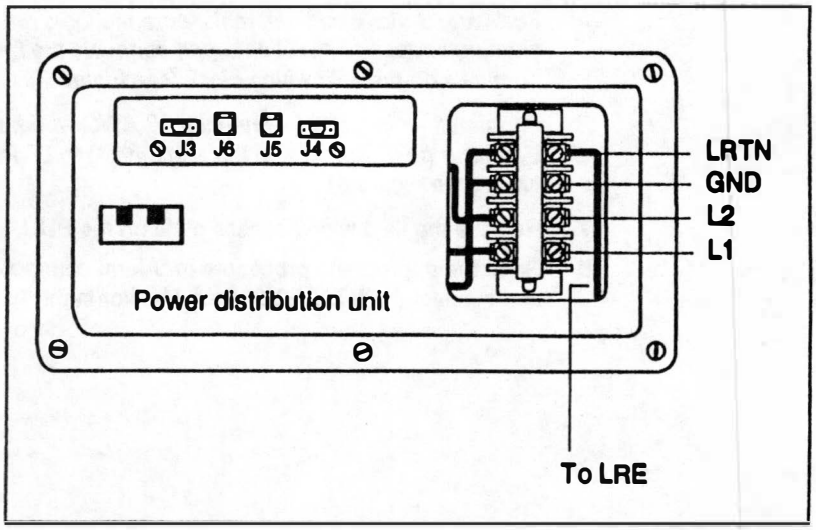


Figure 8
AEM Logic return connection—LRTN isolated star connection for a multi-column row



Power connections (dc)

A stand-alone AEM column can be connected to the dc power plant used with the Meridian 1 system.

Depending on the distances between columns and the service panel, you may run safety ground wiring independently from the AEM column to the service panel, or you may daisy-chain the safety ground wiring between the AEM column and the Meridian 1.

WARNING
Risk of equipment damage
Failure to follow grounding procedures can result in an unsafe or faulty system.

You must run all wiring (except cables to the system monitor) from the external power equipment to the pedestal through flexible metallic conduit. You may route a 3/4-inch conduit through four holes in the top or bottom of the pedestal. The 3/4-inch conduit can contain a maximum of nine #10 AWG wires or five #8 AWG.

A maximum loop drop of two volts is allowed between the pedestal, or a junction box, and the external power equipment. See Table 1 for allowable wire sizes. See *Power engineering* (553–3001–152) for detailed information on calculating wire size.

Table 1
Pedestal wire gauge requirements with two 30-amp 48 V dc feeds (see Note 1)

Length	Single conduit #8 AWG	Dual conduit #6 AWG (Note 2)	Junction box (single #4 AWG) (Note 3)	Junction box (double #4 AWG) (Note 4)
0 – 3 m (10 ft)	Yes	Yes	Yes	Yes
0 – 6 m (20 ft)	Yes	Yes	Yes	Yes
0 – 9 m (30 ft)	Yes	Yes	Yes	Yes
0 – 12 m (40 ft)	Yes	Yes	Yes	Yes
0 – 15 m (50 ft)	Yes	Yes	Yes	Yes
0 – 18 m (60 ft)	No	Yes	Yes	Yes
0 – 21 m (70 ft)	No	Yes	Yes	Yes
0 – 24 m (80 ft)	No	Yes	Yes	Yes
0 – 27 m (90 ft)	No	No	Yes	Yes
0 – 30 m (100 ft)	No	No	Yes	Yes
0 – 60 m (200 ft)	No	No	No	Yes
over 60 m (200 ft)	No	No	No	No

Note 1: Two 30-amp feeds are typically adequate for a column with four modules (five wires total—two 30-amp battery/battery return pairs plus logic return).

Note 2: When using dual conduit, the wires must be run in battery/battery return pairs, with one pair in one conduit and the other pair, plus logic return, in the other conduit.

Note 3: Five single runs of #4 AWG wire are used from the distribution point to the NT6D53 junction box near the pedestal; #10 AWG wire in a single conduit (supplied with the junction box) is run from the junction box to the pedestal.

Note 4: Five double runs of #4 AWG wire are used from the distribution point to the NT6D53 junction box near the pedestal; #10 AWG wire in a single conduit (supplied with the junction box) is run from the junction box to the pedestal.

Legend: Yes = Wire size is adequate for the distance
No = Wire size has too high a voltage drop and is inadequate for the distance.

Procedure 2
Power connections (dc)

1 Connect the safety ground wire.

Use insulated ground wire for system grounding.

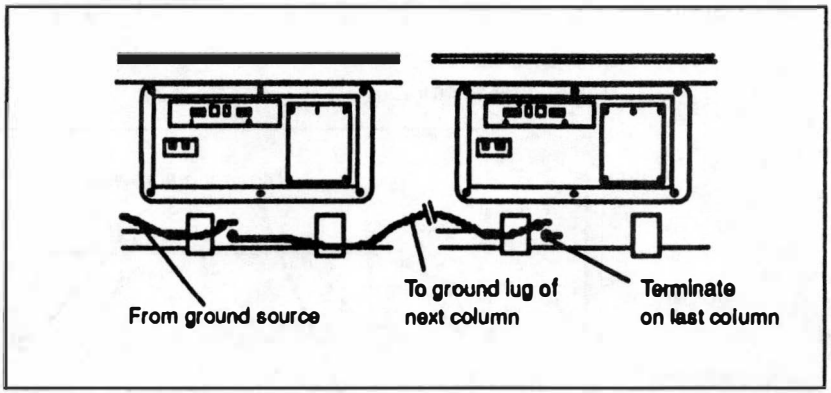
For a direct connection, connect a #6 AWG wire from the ground source in the service panel to a ground lug on the pedestal of the AEM column.

For a daisy-chain connection, connect a #6 AWG wire from a ground lug on the closest Meridian 1 column or cabinet to a ground lug on the pedestal of the AEM column (see Figure 9).

> ***Note:*** If the power plant consists of a QBL12 used with customer-provided power equipment, use a direct connection to the service panel. Do not extend ground wiring from the Meridian 1/SL-1 frame to the power plant.

2 Remove the PDU to access the field wiring terminal block (TB1) in the bottom of the pedestal.

Figure 9
Direct wiring connection—Meridian 1 to AEM



3 Remove the backplane cover on the I/O assembly in the AEM above the pedestal, refer to Figure 10.

4 Disconnect the power plug (J1) and system monitor ribbon cable to the AEM.

> ***Note:*** To disconnect the power plug, press a latch trip on the front and rear of the plug. You may need to use a screwdriver blade against the latch trip on the front of the plug.

5 Loosen the retaining screws that secure the PDU.

6 If required, install a junction box near the pedestal of the AEM column. Insert the conduit from the junction box into one of the conduit access holes in the pedestal.

Connect the wires from the junction box to the matching connections on TB1 in the pedestal:

a. Connect the red wires, BAT0 through BAT3.

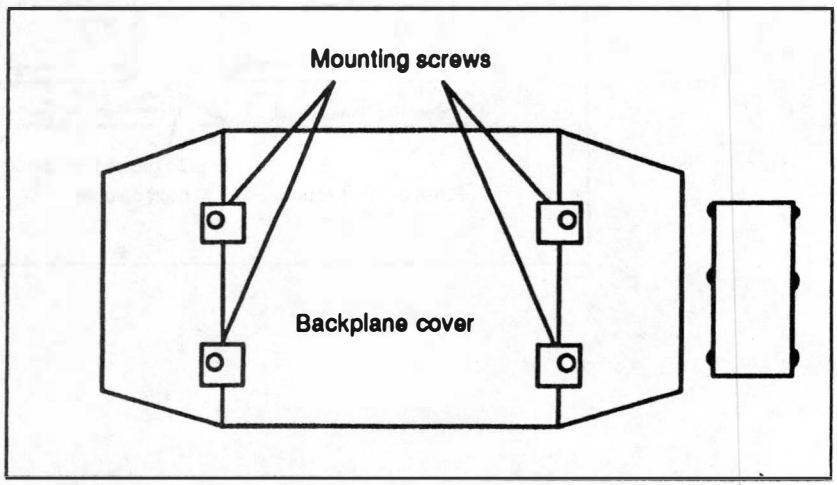
b. Connect the black wires, RTN0 through RTN3.

c. Connect the green wire, FGRD.

d. Connect the remaining wire (which is usually orange), LRTN.

> ***Note:*** If a junction box is used, the connections described in steps 4 through 7 apply to TB1 in the junction box rather than the pedestal.

Figure 10
Backplane cover



7 Connect red BAT wires from the power equipment to BAT connections on TB1 in the pedestal.

a. Connections at the power equipment:

*For an **NT6D82**, connect wires to the first four circuit breakers in the main control/distribution panel (see Figure 11). (If one wire feeds two modules, connect only the first two breakers.)*

*For a **QBL12**, connect wires to the first four available output connections on the –48V terminal panel (see Figure 12).*

*For a **QBL15**, connect wires to terminals 1, 2, or 3 (DISCHARGE) on TB1 (see Figure 13).*

*For a **QCA13**, connect wires to the first four available output connections on the –48V terminal panel (see Figure 12).*

b. Connections at the pedestal:

If there is only one AEM in the column, remove any straps installed on the terminal block and connect the red wire to BAT0.

If there are multiple AEMs in the column and one wire feeds two modules:

— For modules 0 and 1, connect to BAT0 and add a strap (if not already installed) between BAT0 and BAT1.

— For modules 2 and 3, connect to BAT2 and add a strap (if not already installed) between BAT2 and BAT3.

If there are multiple AEMs in the column and each AEM has a wire, remove straps (if installed) and connect the wire for each AEM:

— For module 0, connect to BAT0

— For module 1, connect to BAT1

— For module 2, connect to BAT2

— For module 3, connect to BAT3

8 Connect black RTN wires from the power equipment to RTN connections on TB1 in the pedestal.

a. Connections at the power equipment:

*For an **NT6D82**, connect wires to the ground bus/LRE.*

*For a **QBL12**, connect wires to the LRE.*

*For a **QBL15**, connect wires to the positive bus.*

*For a **QCA13**, connect wires to the LRE.*

b. Connections at the pedestal:

If there is only one AEM in the column, connect the black wire to RTN0.

If there are multiple AEMs in the column and one wire feeds two modules:

— For modules 0 and 1, connect to RTN0 and add a strap (if not already installed) between RTN0 and RTN1.

— For modules 2 and 3, connect to RTN2 and add a strap (if not already installed) between RTN2 and RTN3.

If there are multiple AEMs in the column and each AEM has a wire, remove straps (if installed) and connect the wire for each AEM:

— For module 0, connect to RTN0

— For module 1, connect to RTN1

— For module 2, connect to RTN2

— For module 3, connect to RTN3

9 Connect LRTN wiring (orange or white #8 AWG) from the power equipment to LRTN on TB1 in the pedestal:

*For an **NT6D82**, connect the wire to the ground bus/LRE.*

*For a **QBL12**, connect the wire to the LRE.*

*For a **QBL15**, connect the wire to the positive bus.*

*For a **QCA13**, connect the wire to the LRE.*

10 Reinstall the PDU:

a. At the front of the pedestal, set the switch on the front of the blower unit to OFF (down). Slide the unit out approximately 75 mm (3 in.).

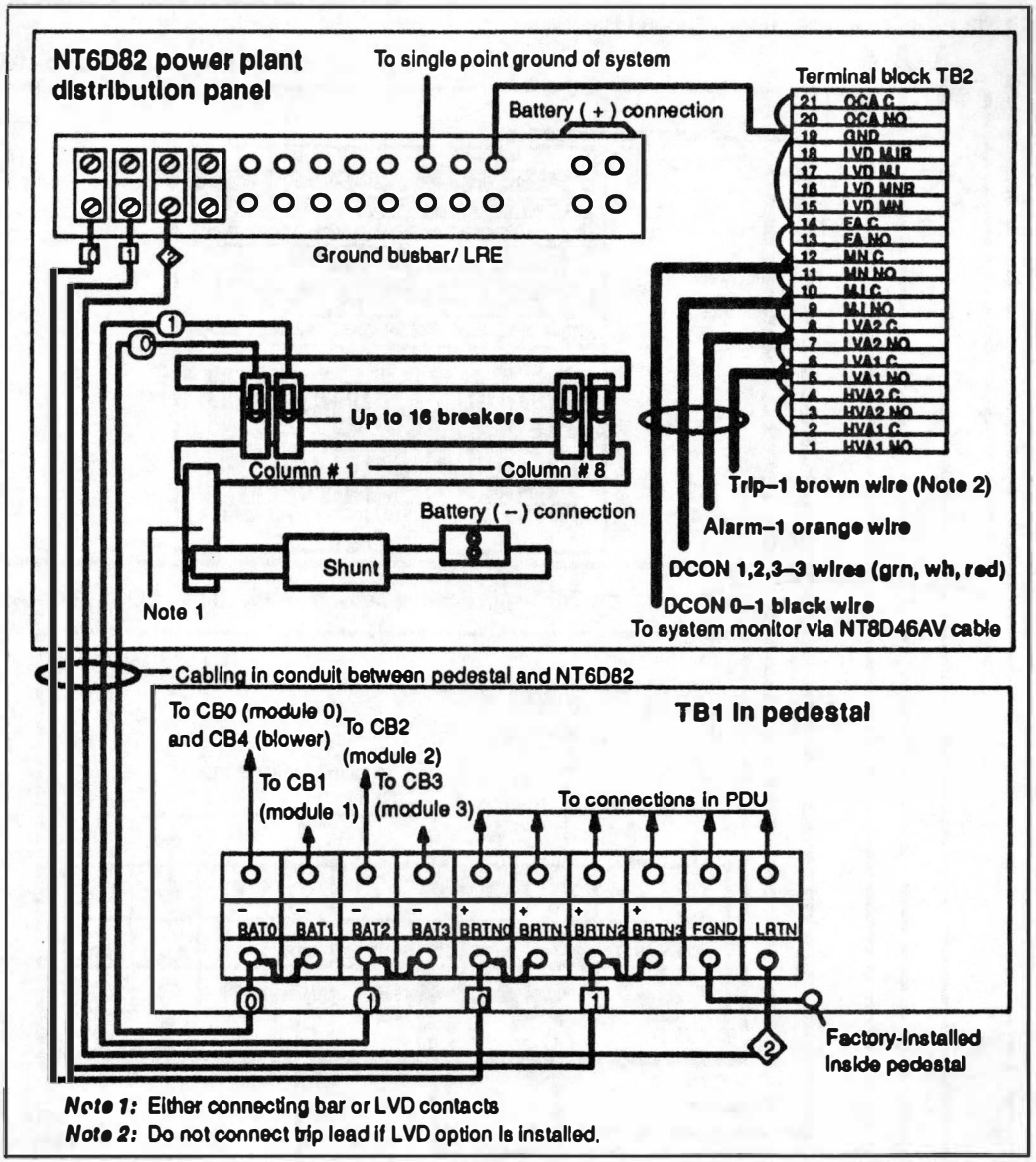
b. Insert the PDU and secure it with its retaining screws.

c. Insert the blower unit until it is securely plugged into the PDU. Set the switch on the blower unit to ON.

d. Reconnect the system monitor and power cables from the pedestal to the AEM above the pedestal.

11 Go to the appropriate procedure in "Alarm connections" to configure and connect the NT8D22 System Monitor in the AEM column.

Figure 11
Pedestal to NT6D82 connections



Note 1: Either connecting bar or LVD contacts
Note 2: Do not connect trip lead if LVD option is installed.

Figure 12
Pedestal to QBL12 or QCA13 connections

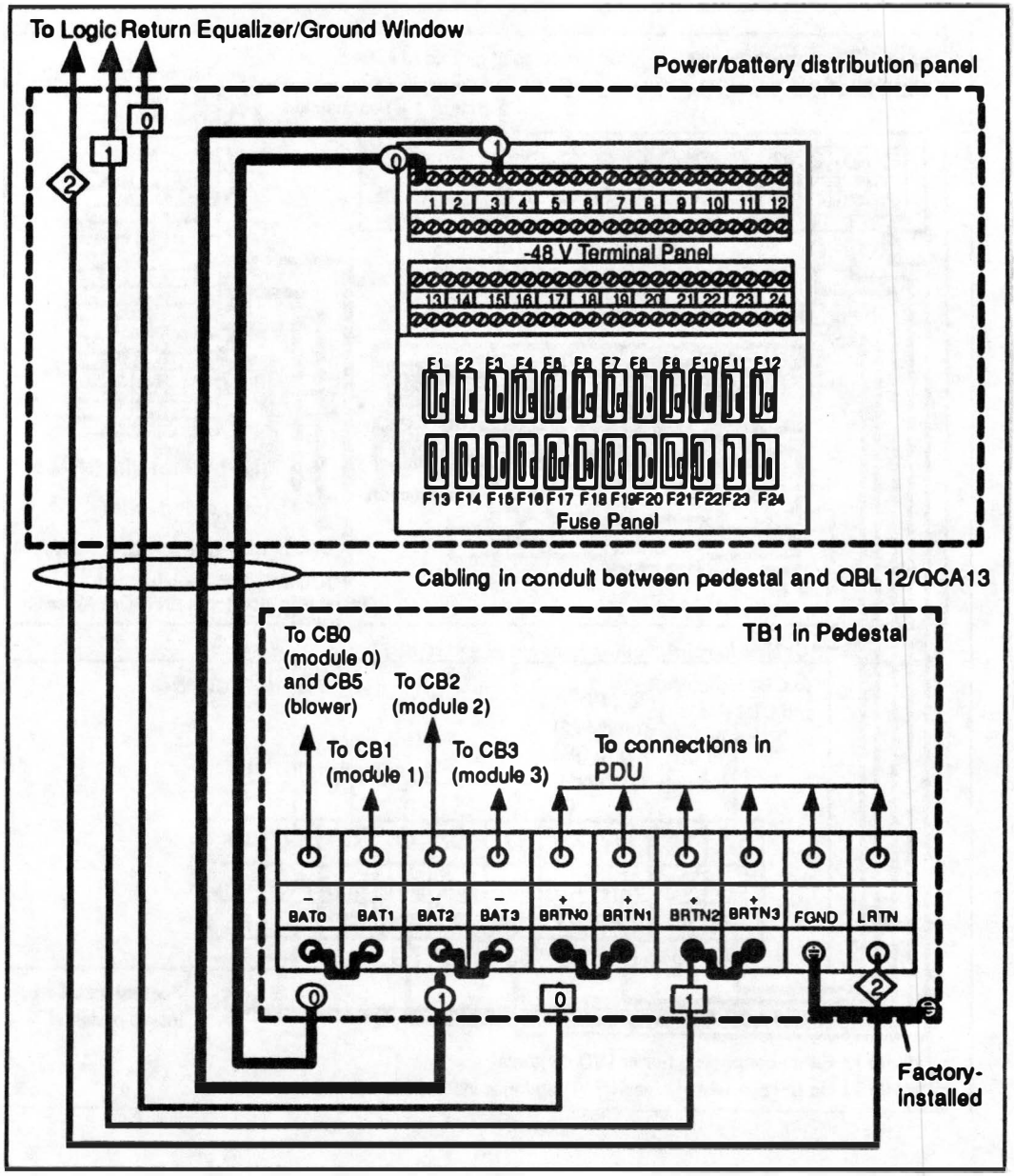
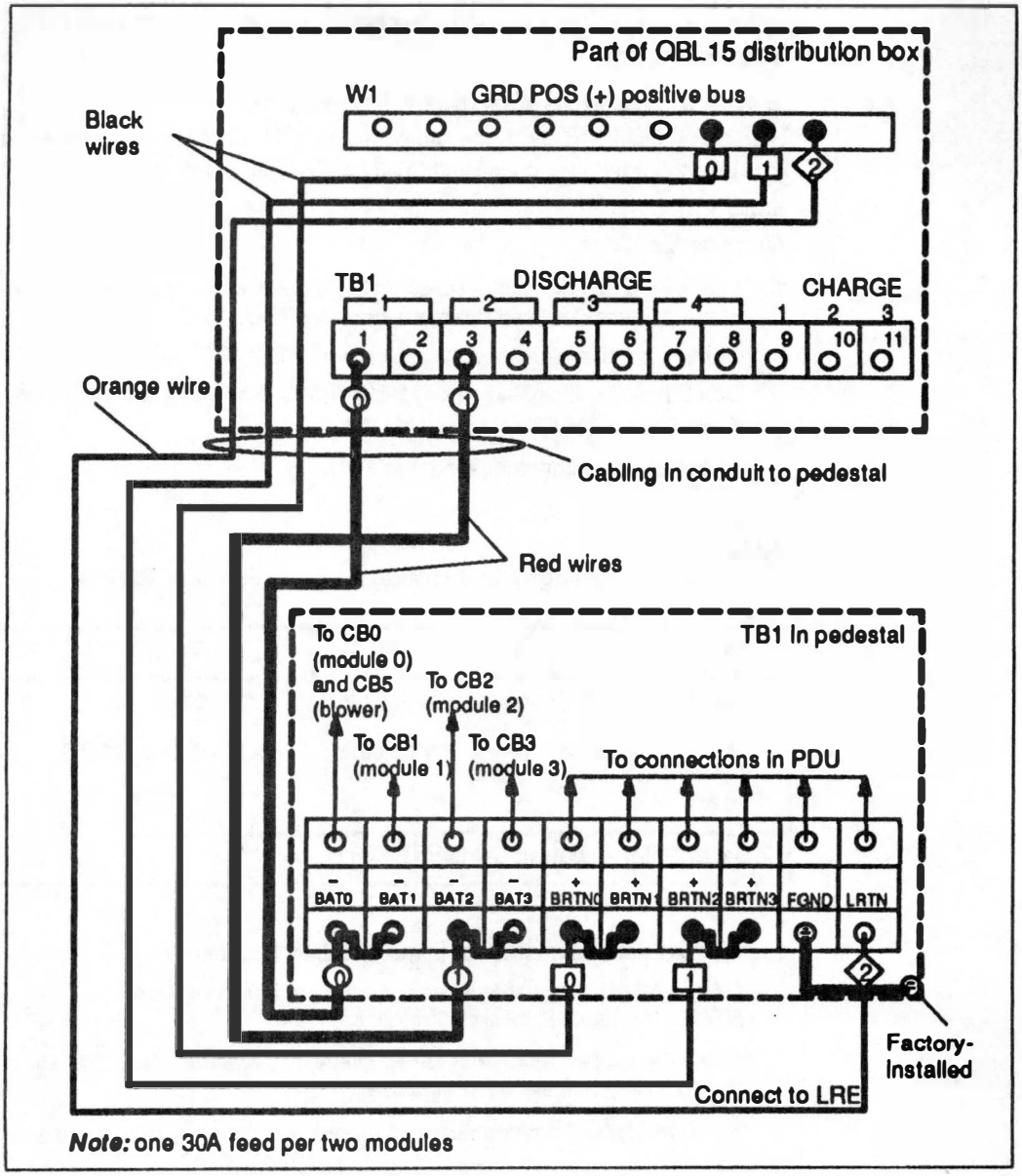


Figure 13
Pedestal to QBL15 connections



Note: one 30A feed per two modules

Alarm connections

When you add a stand-alone AEM to a Meridian 1, you must extend alarm cables from the AEM pedestal to the existing system as described in the following procedures.

Alarm connections with Meridian 1 systems

Use this procedure to configure and connect the NT8D22 system monitor in an AEM column that is connected to other Meridian 1 columns.

Procedure 3
Alarm connections

1 Loosen the two retaining screws on the system monitor in the pedestal of the AEM column and remove it from the PDU.

2 Configure the system monitor as a slave as shown in Table 2.

See Circuit card installation and testing *(553–3001–211)* for a detailed description of the option switch settings.

3 Reinstall the system monitor in the PDU.

Table 2
NT8D22 switch settings (set as slave) for operation with Meridian 1

Switch	1	2	3	4	5	6	7	8
SW1	off	off	*	off	off	off	off	off
SW2	off	off	(to set positions 3 – 8, see Table 3)					
SW3	off	off	off	off				
* Set to off for ac power. Set to on for dc power.								

4 Connect the system monitor to the Meridian 1 columns.

Use an NT8D46AL cable when columns are adjacent. Use an NT8D46AP cable if columns are not adjacent.

Cable the system monitor in series (slave 1-to-slave 2, slave 2-to-slave 3, and so on) with the other columns:

a. Run cables from connector J6 on one system monitor to J5 on the next.

b. Terminate at J5 on the last column in the series.

5 Set all circuit breakers in the rear of the AEM pedestal to OFF (down), then connect the AEM column to the power supply.

6 See the *Application Module installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Table 3
SW2 positions 3 – 8—unit number for the slave

Slave no.	Switch position						Slave no.	Switch position					
	3	4	5	6	7	8		3	4	5	6	7	8
1	on	on	on	on	on	off	33	off	on	on	on	on	off
2	on	on	on	on	off	on	34	off	on	on	on	off	on
3	on	on	on	on	off	off	35	off	on	on	on	off	off
4	on	on	on	off	on	on	36	off	on	on	off	on	on
5	on	on	on	off	on	off	37	off	on	on	off	on	off
6	on	on	on	off	off	on	38	off	on	on	off	off	on
7	on	on	on	off	off	off	39	off	on	on	off	off	off
8	on	on	off	on	on	on	40	off	on	off	on	on	on
9	on	on	off	on	on	off	41	off	on	off	on	on	off
10	on	on	off	on	off	on	42	off	on	off	on	off	on
11	on	on	off	on	off	off	43	off	on	off	on	off	off
12	on	on	off	off	on	on	44	off	on	off	off	on	on
13	on	on	off	off	on	off	45	off	on	off	off	on	off
14	on	on	off	off	off	on	46	off	on	off	off	off	on
15	on	on	off	off	off	off	47	off	on	off	off	off	off
16	on	off	on	on	on	on	48	off	off	on	on	on	on
17	on	off	on	on	on	off	49	off	off	on	on	on	off
18	on	off	on	on	off	on	50	off	off	on	on	off	on
19	on	off	on	on	off	off	51	off	off	on	on	off	off
20	on	off	on	off	on	on	52	off	off	on	off	on	on
21	on	off	on	off	on	off	53	off	off	on	off	on	off
22	on	off	on	off	off	on	54	off	off	on	off	off	on
23	on	off	on	off	off	off	55	off	off	on	off	off	off
24	on	off	off	on	on	on	56	off	off	off	on	on	on
25	on	off	off	on	on	off	57	off	off	off	on	on	off
26	on	off	off	on	off	on	58	off	off	off	on	off	on
27	on	off	off	on	off	off	59	off	off	off	on	off	off
28	on	off	off	off	on	on	60	off	off	off	off	on	on
29	on	off	off	off	on	off	61	off	off	off	off	on	off
30	on	off	off	off	off	on	62	off	off	off	off	off	on
31	on	off	off	off	off	off	63	off	off	off	off	off	off
32	off	on	on	on	on	on							

Alarm connections with ST or RT systems

Table 4 lists the hardware required for alarm connections between an AEM column and ST or RT systems.

If the AEM column is connected to a Power Fail Transfer Unit (PFTU) or you want an external alarm (such as a light or bell) for the AEM column, connect the system monitor to the main distribution frame (MDF).

Table 4
ST/RT alarm connection hardware requirements

SL-1 system type	Hardware required (one of each)
ST with QCA136 cabinet	NT8D46AY System Monitor Cable NT8D46BF System Monitor Cable (Note 1) NT8D46BH System Monitor Cable (Note 1) QCAD309 Alarm Adapter cable (Note 2) P0678258 Filter Connector (Note 2)
ST with QCA136 and QCA137 cabinets	NT8D46BC System Monitor Cable NT8D46BE System Monitor Cable NT8D46BM System Monitor Cable QCAD310 Ground Cable
RT with QCA147 cabinet	NT8D46AY System Monitor Cable NT8D46BF System Monitor Cable (Note 1) NT8D46BH System Monitor Cable (Note 1)
RT with QCA147 and QCA137 cabinets	NT8D46CH System Monitor Cable NT8D46BF System Monitor Cable (Note 1) NT8D46BH System Monitor Cable (Note 1) QCAD310 Ground Cable
RT with QCA147 and two QCA137 cabinets	NT8D46BC System Monitor Cable NT8D46BE System Monitor Cable NT8D46BL System Monitor Cable NT8D46BF System Monitor Cable (Note1) NT8D46BH System Monitor Cable (Note 1) QCAD310 Ground Cable

Note 1: The NT8D46BF and NT8D46BH cables are only required when extending the alarm connections to the MDF.

Note 2: ST systems consisting of a single QCA136 cabinet require the installation of a QCAD309 Alarm Adapter cable and one P0678258 Filter Connector.

ST system with a QCA136 cabinet

Use this procedure to configure and connect the NT8D22 system monitor in an AEM column that is connected to a Meridian SL-1 ST equipped with a QCA136 cabinet. Refer to Figure 14 during this procedure.

Note: If you are not making alarm connections to the MDF, skip steps 3 through 6 and directly install connector P1 of the NT8D46AY cable into connector J3 of the system monitor.

Procedure 4
ST system with QCA136 cabinet connections

1 Loosen the two retaining screws on the system monitor in the pedestal of the AEM column and remove it from the PDU.

2 Configure the system monitor as the master as shown in Table 5. (See *Circuit card installation and testing* (553–3001–211) for a detailed description of the option switch settings.)

Table 5
NT8D22 switch settings (set as master) for operation with ST

Switch	1	2	3	4	5	6	7	8
SW1	on	off	*	off	on	on	on	on
SW2	on	on	on	on	on	on	on	on
SW3	on	on	on	on				

* Set to off for ac power. Set to on for dc power.

3 Reinstall the system monitor in the PDU.

4 Install connector P1 of the NT8D46AY cable into connector J1 of the NT8D46BF cable.

5 Install connector P1 of the NT8D46BF cable into connector J3 of the system monitor.

6 Install connector J2 of the NT8D46BF cable into connector P1 of the NT8D46BH cable.

7 Connect the other end of the NT8D46BH cable at the alarm termination area on the MDF.

8 Power down the QCA136 cabinet.

9 Remove the QCA136 rear panels and the EMI back panel.

10 Install the QCAD309 cable and the filter connector (P0678258) according to *ST installation procedures* (553–2431–210).

11 Connect P2 of the NT8D46AY cable into the filter connector at the bottom rear of the QCA136 cabinet.

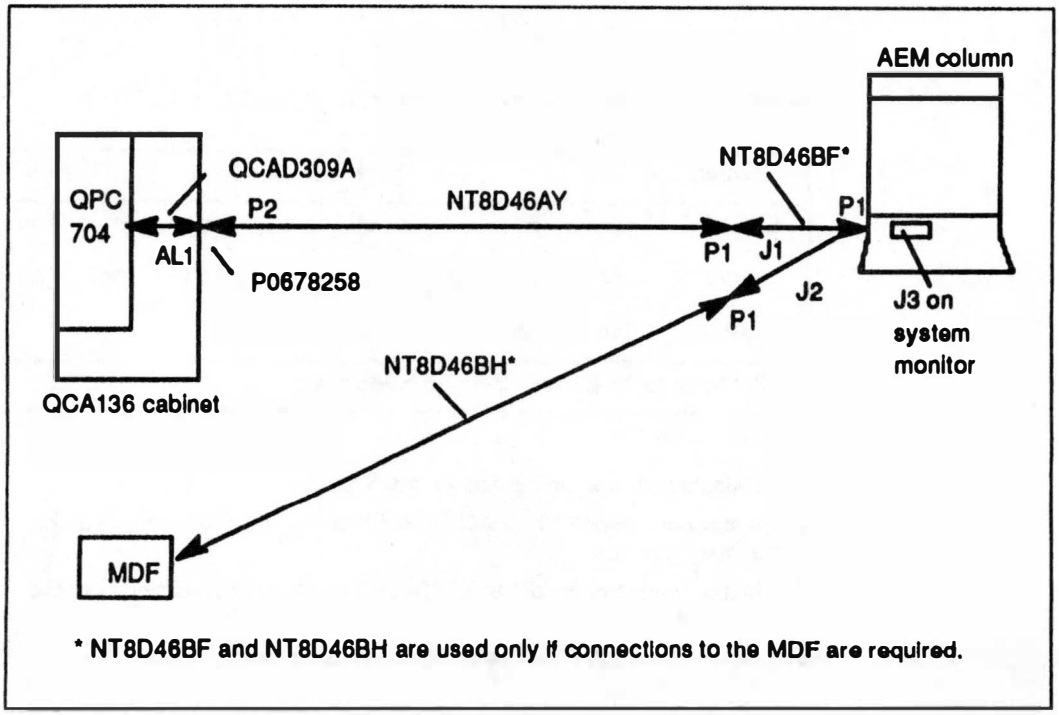
12 Reinstall the QCA136 EMI back panel and the rear panels.

13 Power up the QCA136 cabinet.

14 Set all circuit breakers in the rear of the AEM pedestal to OFF (down), then connect the AEM column to the power supply.

15 See the *Application Module Installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Figure 14
Alarm connections to ST with a QCA136 cabinet



* NT8D46BF and NT8D46BH are used only if connections to the MDF are required.

ST system with QCA136 and QCA137 cabinets

Use this procedure to configure and connect the NT8D22 system monitor in an AEM column that is connected to a Meridian SL-1 ST equipped with QCA136 and QCA137 cabinets. Refer to Figure 15 during this procedure.

Note: If you are not making alarm connections to the MDF, skip steps 3 through 6 and directly install connector P1 of the NT8D46BE cable into connector J3 of the system monitor.

Procedure 5
ST system with QCA137 cabinet connections

1 Loosen the two retaining screws on the system monitor in the pedestal of the AEM column and remove it from the PDU.

2 Configure the system monitor as the master as shown in Table 6. (See *Circuit card installation and testing* (553–3001–211) for a detailed description of the option switch settings.)

Table 6
NT8D22 switch settings (set as master) for operation with ST

Switch	1	2	3	4	5	6	7	8
SW1	on	off	*	off	on	on	on	on
SW2	on	on	on	on	on	on	on	on
SW3	on	on	on	on				

* Set to off for ac power. Set to on for dc power.

3 Reinstall the system monitor in the PDU.

4 Install connector P1 of the NT8D48BF cable into connector J3 of the system monitor.

5 Install connector P1 of the NT8D46BE cable into connector J1 of the NT8D46BF cable.

6 Install connector P1 of the NT8D46BH cable into connector J2 of the NT8D46BF cable.

7 Connect the other end of the NT8D46BH cable at the alarm termination area on the MDF.

8 Power down the QCA136 cabinet.

9 Remove the rear panels and EMI back panels from the QCA136 and QCA137.

10 Install connector J1 of the NT8D46BM cable into connector AL1 (P0678258 Filter Connector) at the bottom rear of the QCA136 cabinet.

11 Install connector J1 of the NT8D46BE cable into connector P1 of the NT8D46BM cable.

12 Install connector J2 of the NT8D46BC cable into connector P2 of the NT8D46BM cable.

13 Install connector J1 of the NT8D46BC cable into connector AL1 (P0678258 Filter Connector) at the bottom rear of the QCA137 cabinet.

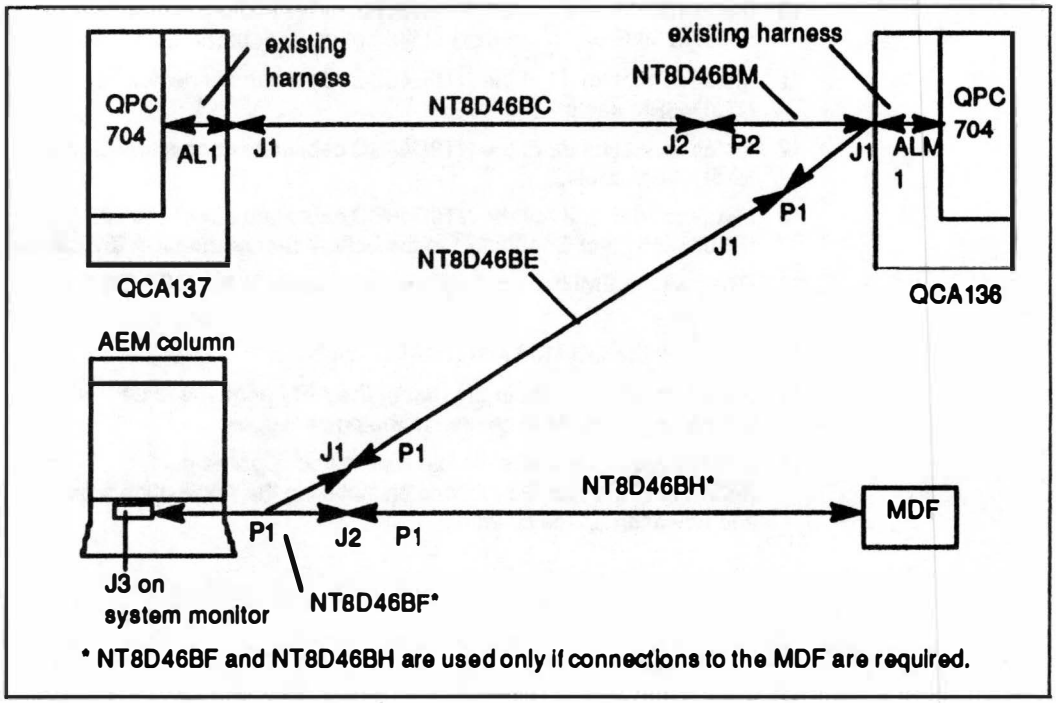
14 Reinstall the EMI back panels and rear panels in the QCA136 and QCA137.

15 Power up the QCA136 and QCA137 cabinets.

16 Set all circuit breakers in the rear of the AEM pedestal to OFF (down), then connect the AEM column to the power supply.

17 See the *Application Module installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Figure 15
Alarm connections to ST with QCA136 and QCA137 cabinets



* NT8D46BF and NT8D46BH are used only if connections to the MDF are required.

RT system with a QCA147 cabinet

Use this procedure to configure and connect the NT8D22 system monitor in an AEM column that is connected to a Meridian SL-1 RT equipped with a QCA147 cabinet. Refer to Figure 16 during this procedure.

Note: If you are not making alarm connections to the MDF, skip steps 3 through 6 and directly install connector P1 of the NT8D46AY cable into connector J3 of the system monitor.

Procedure 6
RT system with QCA147 cabinet connections

1 Loosen the two retaining screws on the system monitor in the pedestal of the AEM column and remove it from the PDU.

2 Configure the system monitor as the master as shown in Table 7. (See *Circuit card installation and testing* (553–3001–211) for a detailed description of the option switch settings.)

Table 7
NT8D22 switch settings (set as master) for operation with RT

Switch	1	2	3	4	5	6	7	8
SW1	on	off	*	off	on	on	on	on
SW2	on	on	on	on	on	on	on	on
SW3	on	on	on	on				

* Set to off for ac power. Set to on for dc power.

3 Reinstall the system monitor in the PDU.

4 Install connector P1 of the NT8D46AY cable into connector J1 of the NT8D46BF cable.

5 Install connector P1 of the NT8D46BF cable into connector J3 of the system monitor.

6 Install connector J2 of the NT8D46BF cable into connector P1 of the NT8D46BH cable.

7 Connect the other end of the NT8D46BH cable at the alarm termination area on the MDF.

8 Power down the QCA147 cabinet.

9 Remove the QCA147 rear panels and EMI back panel.

10 Install connector P2 of the NT8D46AY cable into connector AL1 (P0678258 Filter Connector) at the bottom rear of the QCA147 cabinet.

11 Remove the QPF37A Alarm Adapter Plug.

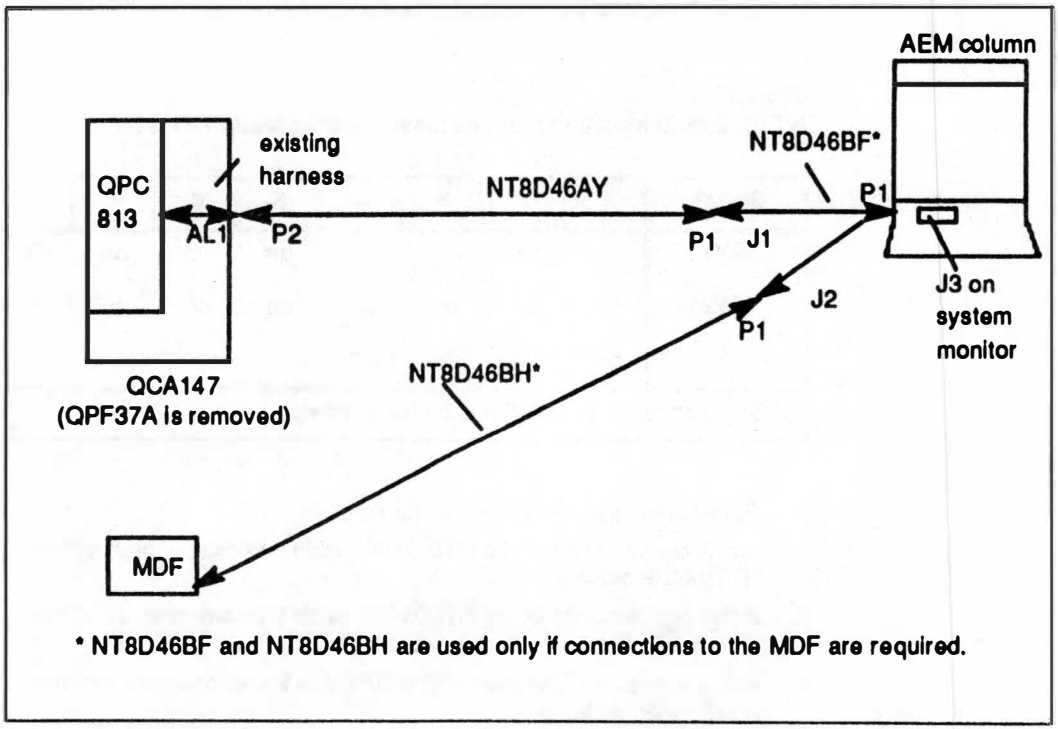
12 Reinstall the QCA147 EMI back panel and rear panels.

13 Power up the QCA147 cabinet.

14 Set all circuit breakers in the rear of the AEM pedestal to OFF (down), then connect the AEM column to the power supply.

15 See the *Application Module installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Figure 16
Alarm connections to RT with a QCA147 cabinet



RT system with QCA147 and QCA137 cabinets

Use this procedure to configure and connect the NT8D22 system monitor in an AEM column that is connected to a Meridian SL-1 RT equipped with QCA147 and QCA137 cabinets. Refer to Figure 17 during this procedure.

Note: If you are not making alarm connections to the MDF, skip steps 3 through 6 and directly install connector P1 of the NT8D46CH cable into connector J3 of the system monitor.

Procedure 7
ST system with QCA147 and QCA137 cabinet connections

1 Loosen the two retaining screws on the system monitor in the pedestal of the AEM column and remove it from the PDU.

2 Configure the system monitor as the master as shown in Table 8. (See *Circuit card installation and testing* (553–3001–211) for a detailed description of the option switch settings.)

Table 8
NT8D22 switch settings (set as master) for operation with RT

Switch	1	2	3	4	5	6	7	8
SW1	on	off	*	off	on	on	on	on
SW2	on	on	on	on	on	on	on	on
SW3	on	on	on	on				

* Set to off for ac power. Set to on for dc power.

3 Reinstall the system monitor in the PDU.

4 Install connector P1 of the NT8D46BF cable into connector J3 of the system monitor.

5 Install connector P1 of the NT8D46CH cable into connector J1 of the NT8D46BF cable.

6 Install connector J2 of the NT8D46BF cable into connector P1 of the NT8D46BH cable.

7 Connect the other end of the NT8D46BH cable at the alarm termination area on the MDF.

8 Power down the QCA147 cabinet.

9 Remove the QCA147 rear panels and the EMI back panel.

10 Make sure the existing alarm cable between the QCA147 and QCA137 cabinets is installed.

11 Remove the QPF37A Alarm Adapter Plug.

12 Install connector J1 of the NT8D46CH cable into connector AL1 (P0678258 Filter Connector) at the bottom rear of the QCA147 cabinet.

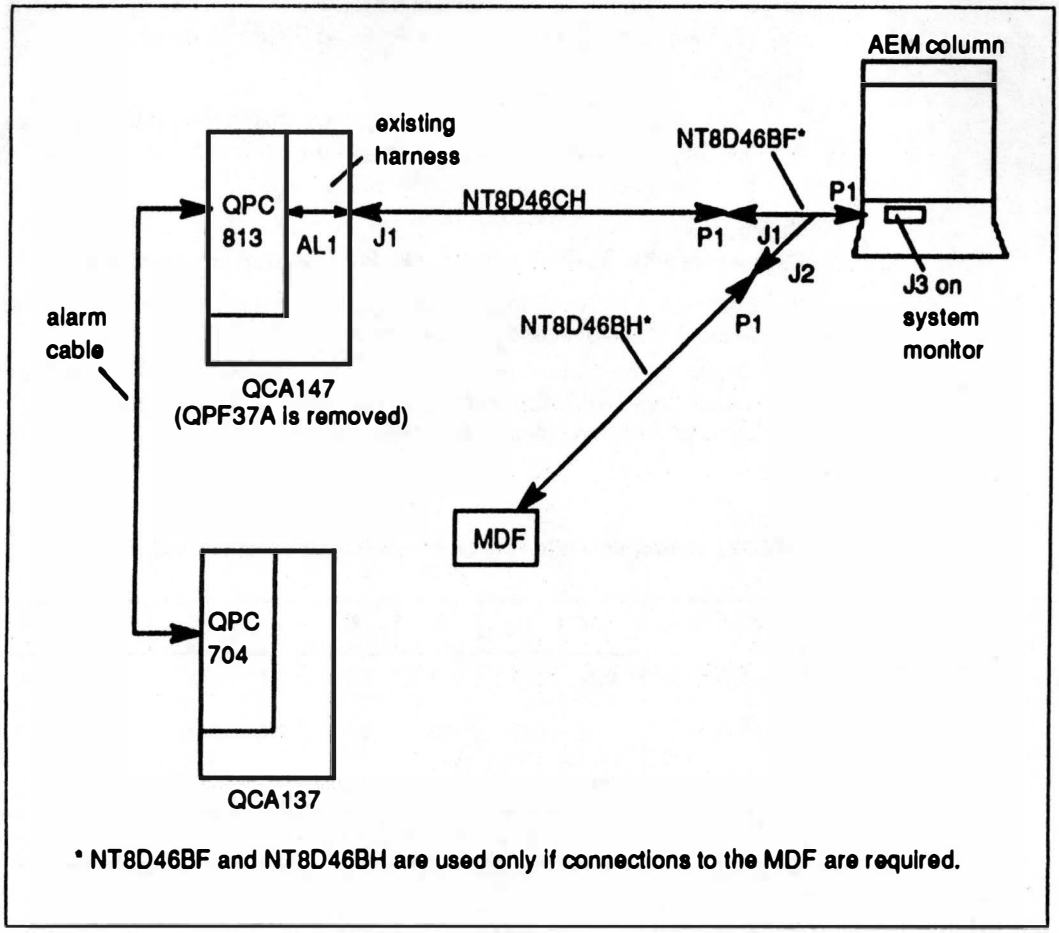
13 Reinstall the QCA147 EMI back panel and the rear panels.

14 Power up the QCA147 cabinet.

15 Set all circuit breakers in the rear of the AEM pedestal to OFF (down), then connect the AEM column to the power supply.

16 See the *Application Module installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Figure 17
Alarm connections to RT with QCA147 and QCA137 cabinets



* NT8D46BF and NT8D46BH are used only if connections to the MDF are required.

RT system with QCA147 and two QCA137 cabinets

Use this procedure to configure and connect the NT8D22 system monitor in an AEM column that is connected to a Meridian SL-1 RT equipped with a QCA147 and two QCA137 cabinets. Refer to Figure 18 during this procedure.

Note: If you are not making alarm connections to the MDF, skip steps 3 through 6 and directly install connector P1 of the NT8D46BE cable into connector J3 of the system monitor.

Procedure 8
RT system with QCA147 and two QCA137 cabinet connections

1 Loosen the two retaining screws on the system monitor in the pedestal of the AEM column and remove it from the PDU.

2 Configure the system monitor as the master as shown in Table 9. (See *Circuit card installation and testing* (553–3001–211) for a detailed description of the option switch settings.)

Table 9
NT8D22 switch settings (set as master) for operation with RT

Switch	1	2	3	4	5	6	7	8
SW1	on	off	*	off	on	on	on	on
SW2	on	on	on	on	on	on	on	on
SW3	on	on	on	on				

* Set to off for ac power. Set to on for dc power.

3 Reinstall the system monitor in the PDU.

4 Install connector P1 of the NT8D46BF cable into connector J3 of the system monitor.

5 Install connector P1 of the NT8D46BE cable into connector J1 of the NT8D46BF cable.

6 Install connector J2 of the NT8D46BF cable into connector P1 of the NT8D46BH cable.

7 Connect the other end of the NT8D46BH cable at the alarm termination area on the MDF.

8 Power down the QCA147 cabinet.

9 Remove the QCA147 rear panels and EMI back panel.

10 Remove the QPF37A Alarm Adapter Plug in the QCA147 cabinet.

11 Verify that the alarm cable is installed between the QCA147 and the first QCA137 cabinets.

12 Install connector J1 of the NT8D46BL cable into connector AL1 (P0678258 Filter Connector) of the QCA147 cabinet.

13 Install connector J1 of the NT8D46BE cable into connector P1 of the NT8D46BL cable.

14 Install connector J2 of the NT8D46BC cable into connector P2 of the NT8D46BL cable.

15 Reinstall the QCA147 EMI back panel and rear panels.

16 Power down the second QCA137 cabinet.

17 Remove the second QCA137 rear panels and EMI back panel.

18 Install connector J1 of the NT8D46BC cable into connector AL1 (P0678258 Filter Connector) of the second QCA137 cabinet.

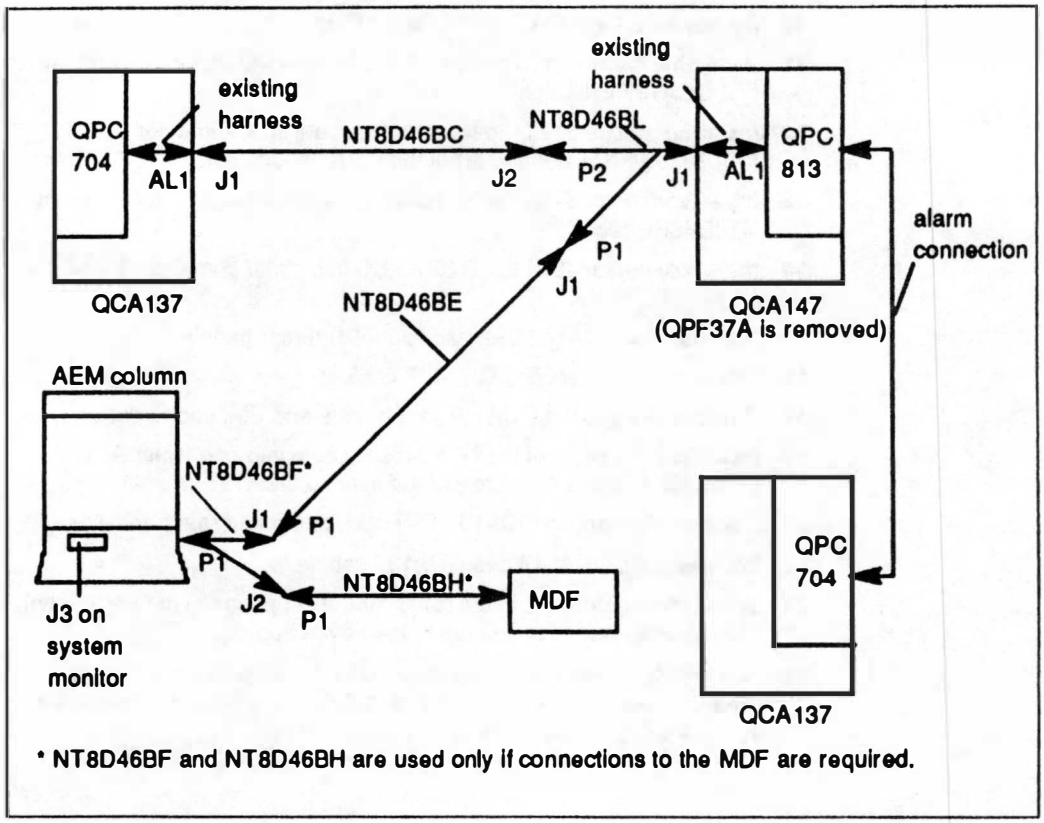
19 Reinstall the second QCA137 EMI back panel and rear panels.

20 Power up the QCA147 and QCA137 cabinets.

21 Set all circuit breakers in the rear of the AEM pedestal to OFF (down), then connect the AEM column to the power supply.

22 See the *Application Module installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Figure 18
Alarm connections to RT with QCA147 and two QCA137 cabinets



Alarm connections with NT or XT systems

Use this procedure to configure and connect the NT8D22 system monitor in the AEM column when QPC84 or QPC173 Power Monitors are used in a Meridian SL-1 NT or XT.

Note: During this procedure, refer to Figure 19 if the SL-1 is equipped with a QPC84 Power Monitor. Refer to Figure 20 if the SL-1 is equipped with a QPC173 Power Monitor.

Procedure 9
NT or XT system with QPC84 or QPC173 cabinet connections

1 Loosen the two retaining screws on the system monitor in the pedestal of the AEM column and remove it from the PDU.

2 Configure the system monitor as the master as shown in Table 10. (See *Circuit card installation and testing* (553–3001–211) for a detailed description of the option switch settings.)

Table 10
NT8D22 switch settings (set as master) for operation with NT or XT

Switch	1	2	3	4	5	6	7	8
SW1	on	off	*	off	off	off	on	off
SW2	on	off	on	on	on	on	on	on
SW3	on	on	on	on				

* Set to off for ac power. Set to on for dc power.

3 Reinstall the system monitor in the PDU.

4 Connect an NT8D46BH alarm cable from connector J3 on the system monitor to the alarm termination area at the MDF.

5 At the MDF, locate the P10 cable from each NT/XT cabinet:

Make sure the SYSLTIN connections (OW wire) in all P10 cables are connected together and to the SYSLTOUT connection (WO wire) on the P10 cable from the CE cabinet.

Make sure the CE–ALARM connections (VBl wire) in all P10 cables are connected together.

6 Locate a –48 V source at the MDF. Connect it to the MDF0–48 connection (green wire) on the NT8D46BH cable.

7 At the MDF, locate the SYSLTIN (blue wire) and CE-SYSLT (white wire) connections on the NT8D46BH cable:

   a. Connect the SYSLTIN connection (blue wire) on the NT8D46BH cable to the SYSLTOUT connection (WO wire) on the P10 cable from the CE cabinet.

   b. Connect the CE–SYSLT connection (white wire) on the NT8D46BH cable to the CE–ALARM connection (OW wire) on the P10 cable from the CE cabinet.

8 Refer to the installation manual for the NT/XT and install an SDI port. Set the SDI port for 1200 baud in DTE mode and connect it to the system monitor:

   a. Install an NT8D46AD cable from connector P1 in the pedestal of the AEM column to J1 on the backplane of the AEM. Mount the SDI connector on the cable in an available opening on the AEM I/O panel.

   b. Install an SDI cable from the SDI port on the NT/XT to the SDI connector on the NT8D46AD cable on the AEM I/O panel.

9 Set all circuit breakers in the rear of the AEM pedestal to OFF (down), then connect the AEM column to the power supply.

10 See the *Application Module installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Figure 19
NT8D22 System Monitor connections to a QPC84 Power Monitor

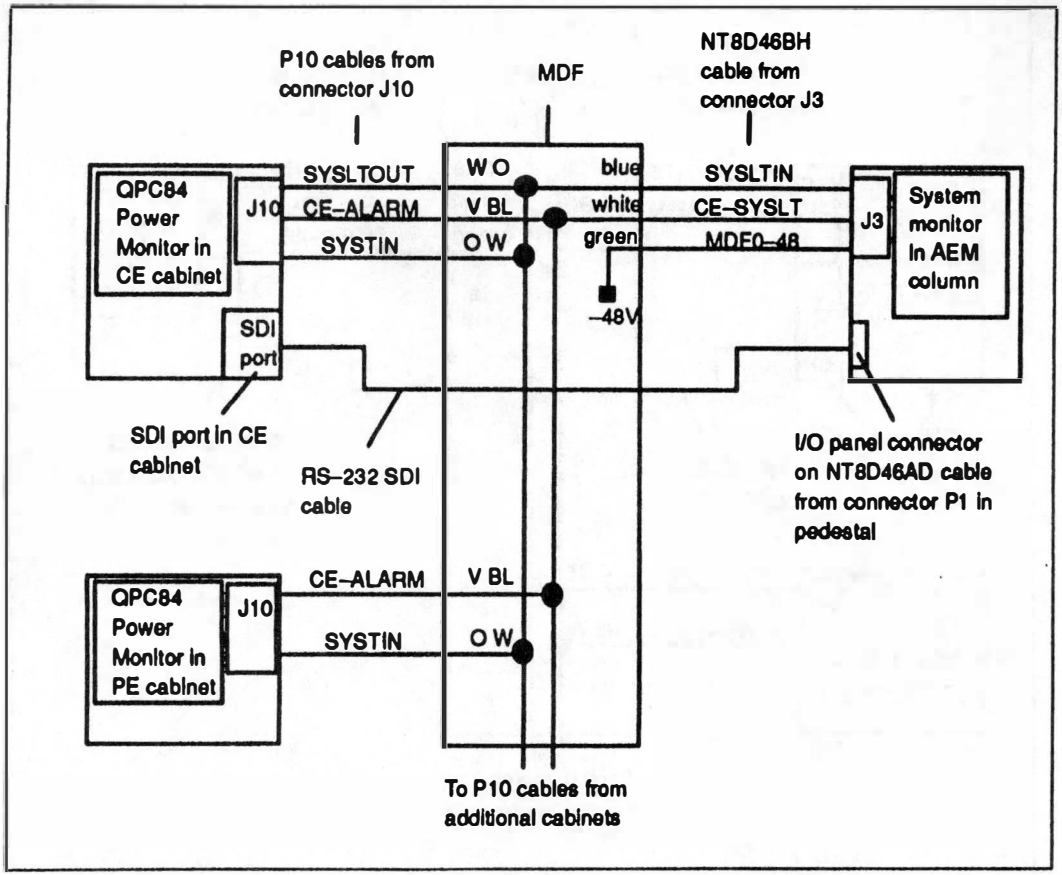
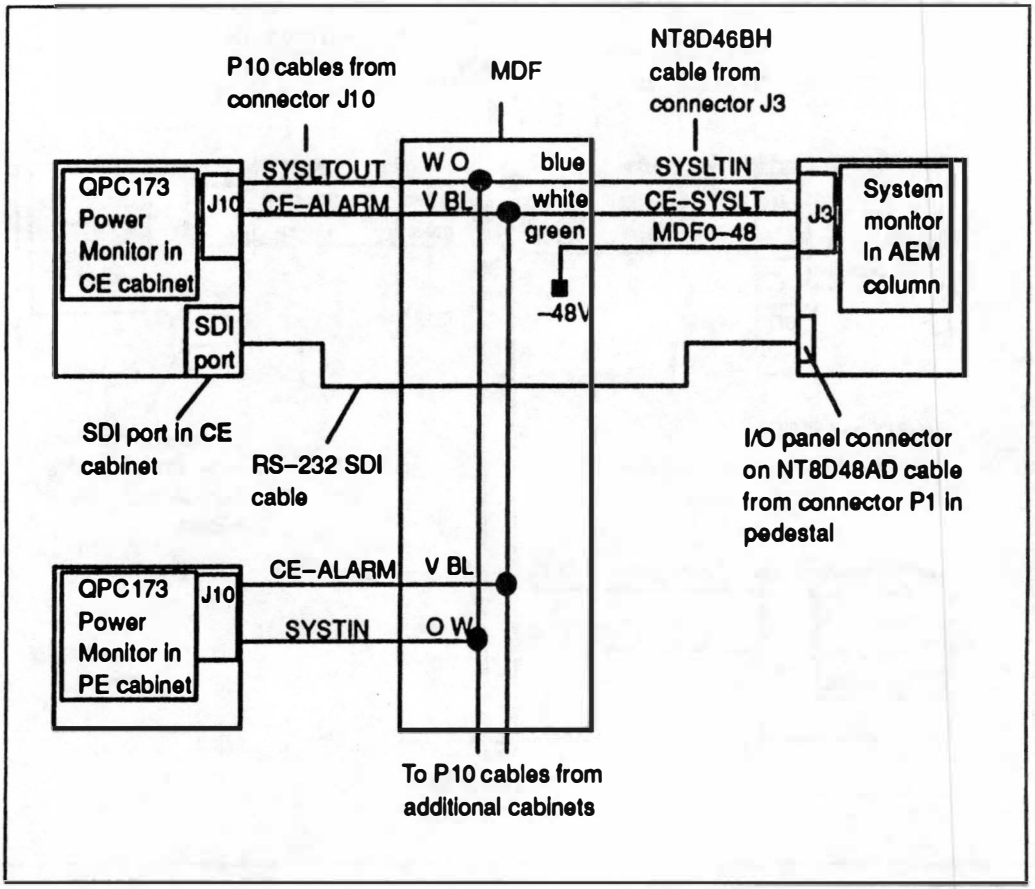


Figure 20
NT8D22 System Monitor connections to a QPC173 Power Monitor



Adding an AEM to a column

An AEM can be added to a Meridian 1 column in one of three positions; a procedure is given for each:

- Adding an AEM to the base of a column
- Adding an AEM between two other modules
- Adding an AEM to the top of a column

There are similarities in the three procedures. Power and system monitor cables between modules must be disconnected, then connected to the AEM and the module must be positioned, then secured with mounting bolts.

Figures 21 through 23 illustrate these tasks.

The AEM is heavy and should be lifted and installed by two people. When you slide the AEM into the shelf, be sure to keep track of the cables and connectors to keep them from getting caught or tangled.

> *Note:* If the column is equipped with earthquake bracing, remove the rods and install longer rods after adding the module. See "Earthquake bracing" in *System installation procedures* (553-3001-210) to perform these functions.

WARNING
Risk of equipment damage
Power to the column must be shut down during these procedures.

Figure 21
Module-to-module power and system monitor connections

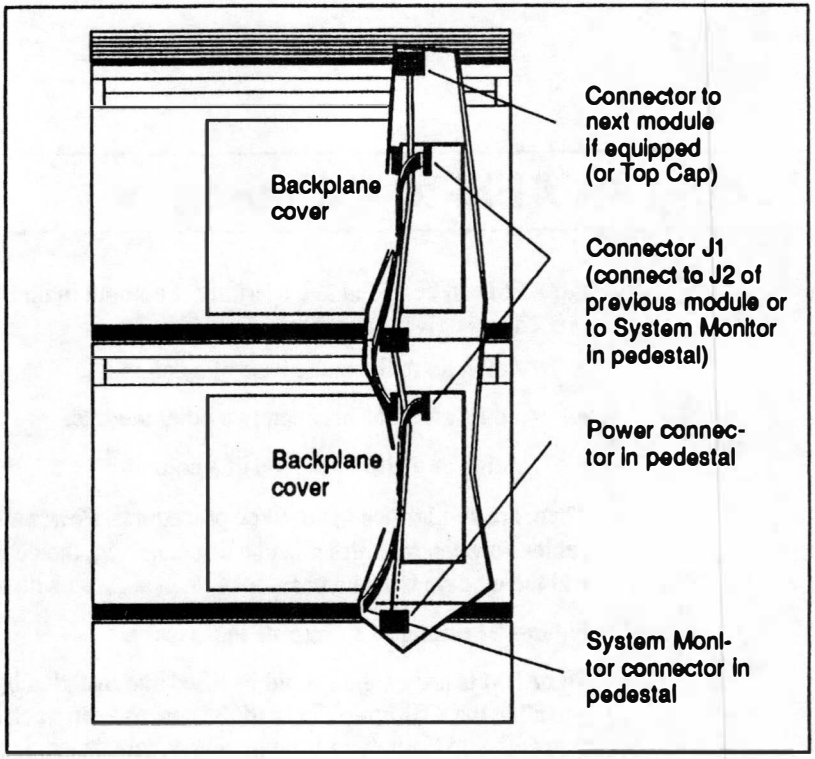


Figure 22
Module mounting bolts

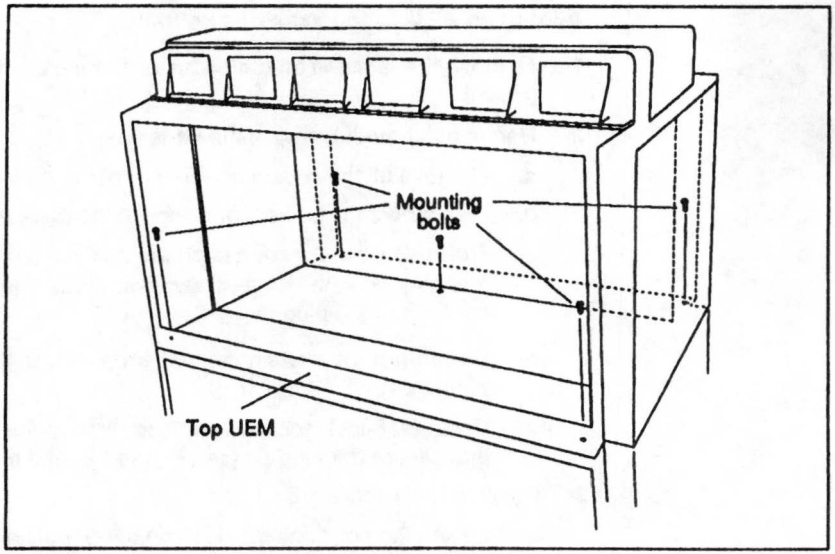
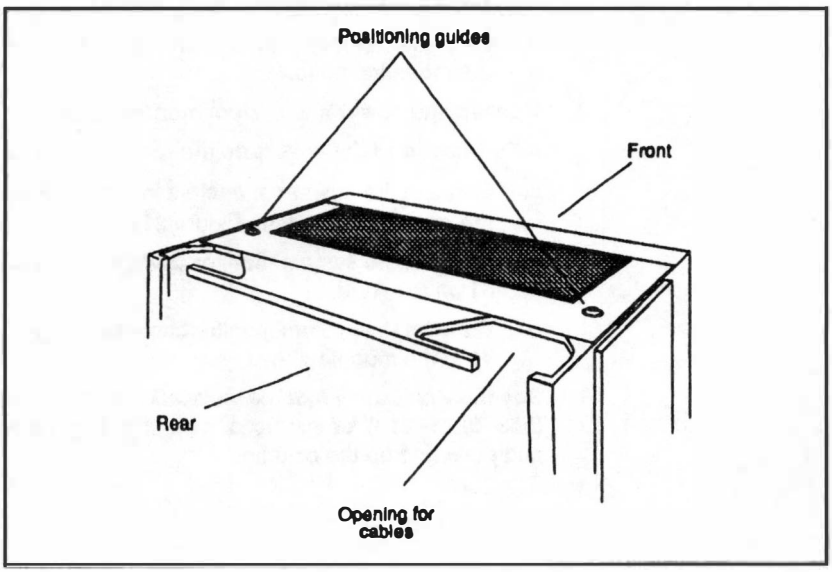


Figure 23
Module positioning guides



Adding an AEM to the base of a column

Procedure 10
Adding an AEM to the base of a column

1. Remove the rear grill on the pedestal and set all circuit breakers to OFF (down).
2. Remove the module above the pedestal:
   a. Remove all the covers on the rear of the module.
   b. Disconnect the power connector to the pedestal (see Figure 21).

      Note: You must press a latch trip on the front and rear of the plug. You may need to use a screwdriver blade against the latch trip on the front of the plug.

   c. Disconnect the system monitor connector to the pedestal (see Figure 21).
   d. Use a 9/16-inch socket wrench to remove the five mounting bolts that secure the module (see Figure 22) and lift it off the column.
3. Position and secure modules:
   a. Locate the positioning guides on the pedestal (see Figure 23). Make sure the AEM is facing the same direction as the column.
   b. Place the AEM on the pedestal and adjust it until it is seated securely on the positioning guides.
   c. Secure the mounting bolts on the AEM.
   d. Place the removed module on top of the AEM and secure it with the mounting bolts.
4. Connect the power and system monitor cables:
   a. Remove all the covers on the rear of the AEM.
   b. Connect the power connectors in the AEM to the pedestal and to the module above (see Figure 21).
   c. Connect the system monitor cable from the pedestal to connector J1 on the AEM.
   d. Connect the system monitor cable from connector J2 in the AEM to J1 in the module above.
5. See the *Application Module installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Adding an AEM between two other modules

Procedure 11
Adding an AEM between two other modules

1 Remove the rear grill on the pedestal and set all circuit breakers to OFF (down).

2 Remove the module that will be above the AEM:

   a. Remove all the covers on the rear of the modules that will be above and below the AEM.

   b. Disconnect the power connectors between the modules (see Figure 21).

   c. Disconnect the system monitor cable from connector J1 in the module that will be above the AEM (see Figure 21).

   d. Use a 9/16" socket wrench to remove the five mounting bolts that secure the module above (see Figure 22) and lift it off the column.

3 Position and secure modules:

   a. Locate the positioning guides on what is now the top module in the column (see Figure 23). Make sure the AEM is facing the same direction as the column.

   b. Place the AEM on top of the column and adjust it until it is seated securely on the positioning guides.

   c. Secure the mounting bolts on the module.

   d. Place the removed module on top of the AEM and secure it with the mounting bolts.

4 Connect the power and system monitor cables between modules:

   a. Remove all the covers on the rear of the AEM.

   b. Connect the power connectors between the AEM and the modules above and below it.

   c. Connect the system monitor cable from connector J2 in the module below to J1 in the AEM.

   d. Connect the system monitor cable from J2 in the AEM to J1 in the module above.

5 See the *Application Module Installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Adding an AEM to the top of a column

Procedure 12
Add an AEM to the top of a column

1 Remove the rear grill on the pedestal and set all circuit breakers to OFF (down).

2 Disconnect power to the top cap:

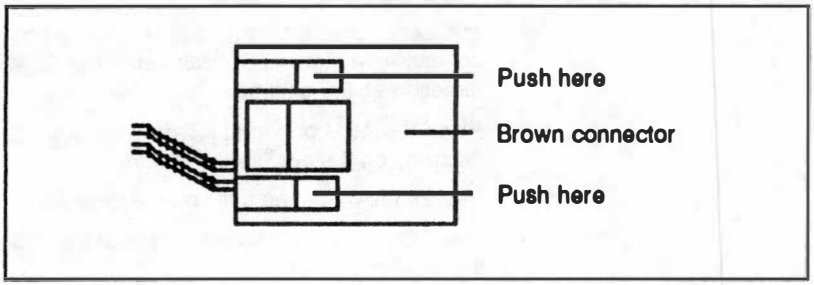
a. Remove the covers on the rear of the module below the top cap.

This includes the outside grey cover and the backplane cover.

b. At the top rear of the module, disconnect the brown power connector marked "J1" from the module power harness.

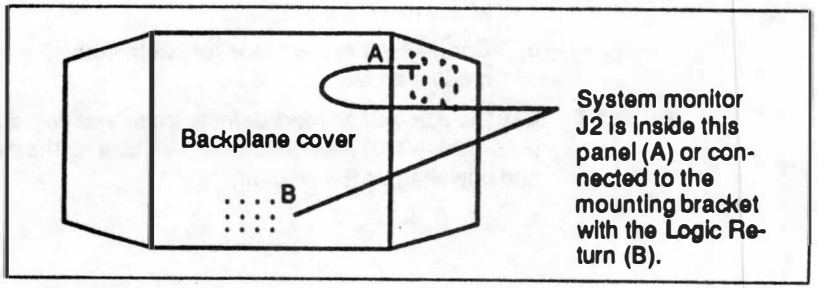
Press the four tabs (two on each side) and let the connector fall loose into the module below. See Figure 24.

Figure 24
Module power harness power connector



c. Disconnect the system monitor cable (flat ribbon cable) at connector J2 on the system monitor. See Figure 25.

Figure 25
System monitor cable at connector J2

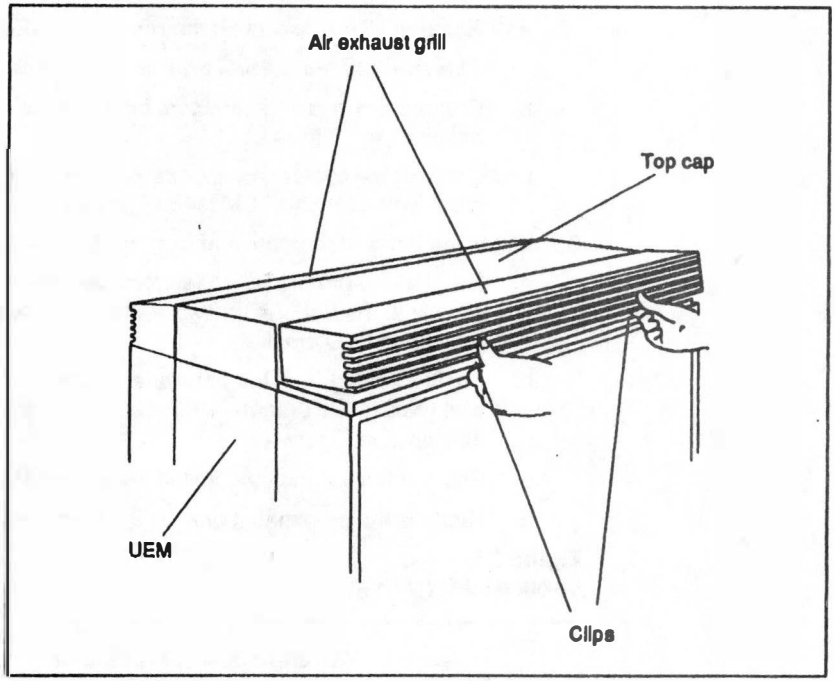


3 Remove the top cap and perforated panel:

a. Pull forward on the clips underneath the front edge of each air exhaust grill on the top cap.

b. Remove the front and rear grills as illustrated in Figure 26.

Figure 26
Removing the air exhaust grill



c. Use a 5/16" socket wrench to remove the six screws that secure the top cap (see Figure 29). Remove the top cap from the column.

d. Remove the screws that secure the perforated panel and LED bracket. Slide the panel slightly to the left (looking at it from the rear of the column) and remove it.

4 Position and secure the AEM:

a. Locate the positioning guides on the module in the column (see Figure 23). Make sure the AEM is facing the same direction as the column.

b. Place the AEM on top of the column and adjust it until it is seated securely on the positioning guides.

c. Use a 9/16" socket wrench to secure the module with five mounting bolts (see Figure 22).

You may have to remove the black junction box (there are four screws attaching it) to secure the bolt in the center of the module. Re-install the junction box once the bolt is secure.

5 Connect the power and system monitor cables between the AEM and the module below it:

a. Remove all the covers on the rear of the AEM.

This includes the outside grey cover and the backplane cover.

b. Connect the power connectors between the AEM and the module below it (see Figure 21).

c. Connect the system monitor cable from connector J2 in the lower module to J1 in the AEM (see Figure 21).

6 Install the perforated panel and top cap on the AEM:

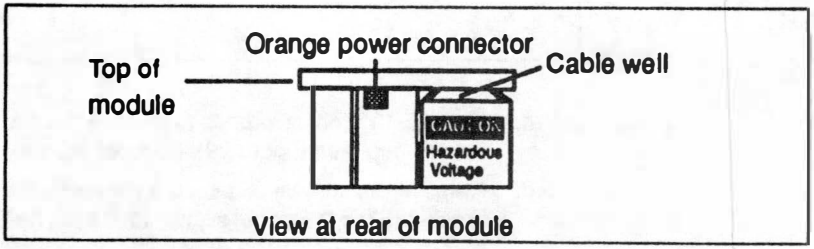
a. Position the perforated panel (removed previously) and slide it slightly to the right (at the rear). Install the screws that secure the panel and LED bracket.

b. Position wiring from the perforated panel so it rests in the cable well (next to the orange power connector at the rear of the module, as shown in Figure 27).

c. Position the top cap and install the screws that secure it.

d. Replace the air exhaust grills at the front and rear of the top cap.

Figure 27
Cable well for wiring



7 Reconnect power to the top cap:

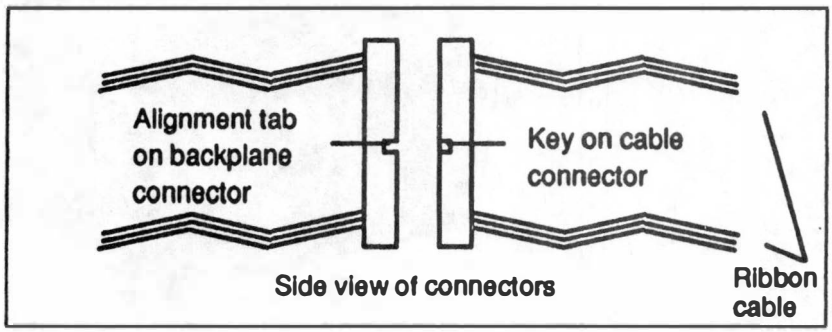
a. Connect the system monitor cable to J2 on the AEM backplane (as shown in Figure 25).

Line up the alignment tab on the connector (as shown in Figure 28) and snap on the pin headers to position the connector correctly.

b. Connect the brown power connector to the module power harness, ensuring that the latches are locked in.

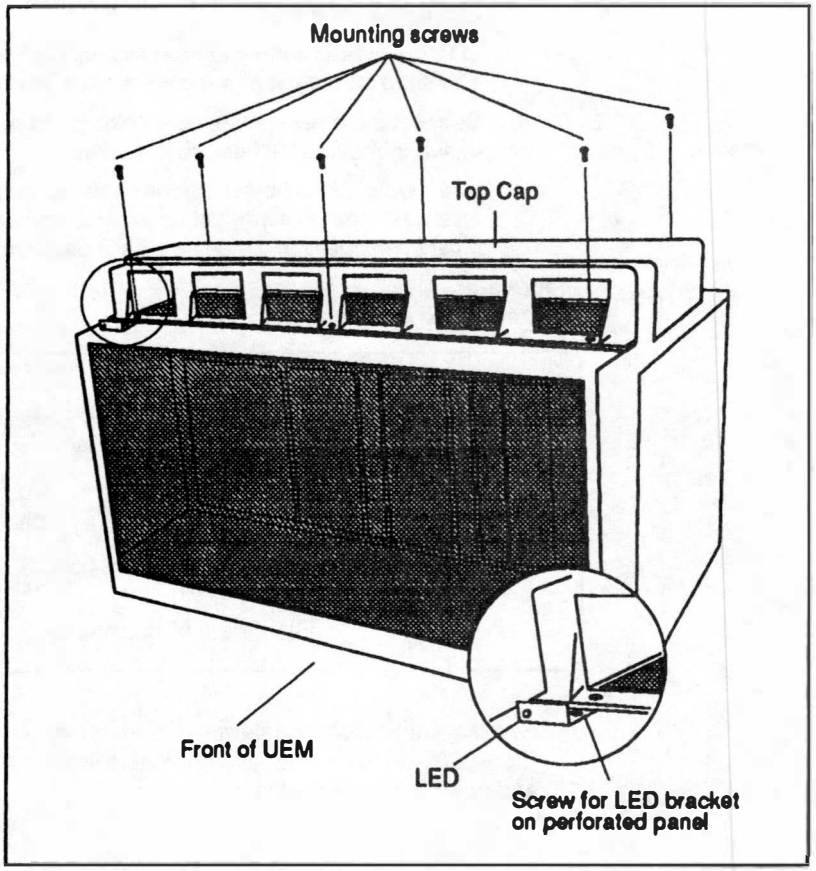
See Figure 21 for power harness connection to the top cap. Instead of plugging straight up to another module, the connector must be installed in a bracket on the perforated panel.

Figure 28
Alignment tab on connector



8 See the *Application Module installation and upgrade guide* (553–3201–210) for instructions on installing the Application Module and powering up the column.

Figure 29
Top cap assembly



Removing an AEM

The steps for removing an AEM from a column are basically the same as for installing the AEM. However, before you remove an AEM, you *must* power down and remove any equipped Application Modules as described in the *Application Module diagnostic and maintenance guide* (553–3201–510).

To replace standard Meridian 1 equipment (the system monitor, PDU, blower unit, or top cap) in a stand-alone configuration, see *Hardware replacement* (553–3001–520).

Ordering

Ordering information

Table 11 lists field replaceable items for the AEM and the quantity required for operation.

Table 11
Field-replaceable items

Part number	Description	Quantity required for ac version	Quantity required for dc version
NT7D00AA	Top cap, ac	1	n/a
NT7D00BA	Top cap, dc	n/a	1
NT7D09AA	Pedestal, dc	n/a	1
NT7D10AA	Power distribution unit, dc	n/a	1
NT7D18AA	Application Equipment Module, ac	1	n/a
NT7D18AB	Application Equipment Module, dc	n/a	1
NTND21AA	Side Panel Kit	as required	as required
NT8D22AC	System monitor	1	1
NT8D27AB	Pedestal, ac	1	n/a
NT8D52AA	Blower unit, ac	1	n/a
NT8D52DC	Blower unit, dc	n/a	1
NT8D53AB	Power distribution unit, ac	1	n/a

Component failure rates

Failure rates for basic AEM components in terms of the number of expected failures in one million hours of operation are listed in Table 11.

Table 12
Component failure rates

Component	Description	Failure rate per million hours
NT7D18AA	Application Equipment Module	1.43
NT7D64AA	Application Module power supply, dc	13.89
NT7D64DC	Application Module power supply, dc	13.89

These failure rates should be used in conjunction with the spares planning section of *Spares planning* (553-3001-153).

Glossary

AEM	Application Equipment Module. A module equipped to support Application Modules.
Application Module	An application processor module.
backplane	A board mounted on a card cage. Circuit cards mount on card pins on the backplane. Printed circuit wiring on the backplane makes connections between circuit cards.
card cage	A frame in a UEM for mounting circuit cards, power supply, backplane and other equipment.
column	An arrangement of at least one AEM, a standard Meridian 1 pedestal and a top cap. A column can contain as many as three AEMs or a mix of AEMs and other Meridian 1 modules.
daisy–chain connection	A method of grounding columns using wiring that connects each column with the preceding column (or ground source) and the succeeding column. The series of connections resembles a daisy chain.
MDF	Main Distribution Frame. The main interconnection point in a telephone exchange.
MLM	Meridian Link Module. An Application Module that provides a link to a host processor through the Meridian Link interface.
MPDU	Module Power Distribution Unit. Part of an AEM. An MPDU provides power to the Application Modules within the AEM.

PDU	Power Distribution Unit. Part of a pedestal. A PDU provides power for the entire column. A PDU contains the field wiring terminal block and the main circuit breaker (or breakers).
pedestal	The equipment that forms the base of column. A pedestal contains a blower unit, an air filter, and a PDU.
SDI port	Serial Data Interface port. Used for the optional sharing features that allow the Application Module console to access Meridian 1 administration and maintenance programs
top cap	The equipment that mounts on top of a column. A top cap provides air flow exits, I/O cable entries and exits, and thermal sensing devices.
UEM	Universal Equipment Module. The basic unit of Meridian 1 modular packaging. A UEM is a self–contained hardware cabinet housing a card cage, with a power supply, backplane, and circuit cards. If the UEM has the card cage for an AEM installed, it functions as an AEM.

Index

A

Adding
- AEM between modules, 47
- AEM to a column, 43
- AEM to column base, 46
- AEM to column top, 48

AEM
- adding between modules, 47
- adding to AEM column, 43
- adding to AEM column top, 48
- adding to base of AEM column, 46
- Application Equipment Module, 1
- description, 2
- figure, 2
- installing, 7
- locking latches, 8
- MPDU, 2
- removing, 53
- temperature range, 4

AEM column
- adding AEM between modules, 47
- adding AEM to base, 46
- adding AEM to top, 48
- adding an AEM, 43
- connecting to Meridian 1, 11, 15
- logic return connection, 12
- unpacking and leveling, 7

Air exhaust grill, removing, 49

Alarm connection
- Meridian 1, 22
- NT or XT systems, 39
- RT system with QCA147 and QCA137 cabinets, 33
- RT system with QCA147 and two QCA137 cabinets, 36
- RT system with QCA147 cabinet, 31
- ST or RT systems, 25
- ST system with QCA136 and QCA137 cabinets, 28
- ST system with QCA136 cabinet, 26

Ambient temperature, 4

Application Equipment Module (AEM), 1

Application Module
- location, 2
- overview, 1

B

Backplane cover, figure, 16

Bolts, module mounting, 45

C

Cards, handling guidelines, 5

Caution notice, 6

Chaining, Meridian 1 to AEM column, 11, 15

Circuit cards, handling guidelines, 5

Component failure rates, table, 56
Connecting
  AEM logic return, 12
  Meridian 1 to AEM column, 11, 15
  PDU, 10
  pedestal to NT6D82, 19
  pedestal to QBL15, 21
Connecting power
  ac, 9
  dc, 13
  module to module, 44
Cover, backplane, 16
CPU Module, 1

D
Daisy chain connection, figure, 11, 15
Danger notice, 5
Dimensions
  pedestal, 3
  top cap, 3

E
Equipment handling precautions, 5

F
Failure rates of components, 56
Field replaceable items
  ordering, 55
  table, 55

G
Gauge, wire requirements (dc), 14
Grill
  air exhaust, removing, 49
  pedestal, 8
Ground, connecting, 10, 15
Guides, module positioning, 45

H
Handling circuit cards, guidelines, 5
Hardware
  configuration, 3
  temperature requirements, 4

I
Installing AEM, 7
Intelligent Peripheral Equipment (IPE) Module, 1

L
Leveling AEM column, 7
Locking latches, AEM, 8

M
Meridian 1, connecting to AEM column, 11, 15
Meridian Link Module, 1
Module mounting bolts, 45
Module positioning guides, 45
Module Power Distribution Unit (MPDU), description, 2
Mounting bolts, module, 45

N
NT6D82, connecting to pedestal, 19
NT8D22
  SW2 settings (slave), 24
  switch settings (master) – NT or XT, 39
  switch settings (master) – RT, 31, 33, 36
  switch settings (master) – ST, 26, 28
  switch settings (slave), 22

O
Ordering field replaceable items, 55

P
PDU, description, 3
PDU connections, 10
Pedestal
  connecting to NT6D82, 19

connecting to QBL15, 21
grill, 8
hardware description, 3
wire gauge requirements (dc), 14
Positioning guides, module, 45
Power
ac, connecting, 9, 13
module to module, connecting, 44
Power Distribution Unit (PDU), 3
Precautions, handling equipment, 5

Q

QBL15, connecting to pedestal, 21

R

Removing
AEM, 53
air exhaust grill, 49
RT alarm connections, 25

S

Safety ground
connecting, 10, 15
description, 9
ST alarm connections, 25
Static discharge
caution, 6
figure, 6
Switch settings
NT8D22 (master) – NT or XT, 39
NT8D22 (master) – RT, 31, 33, 36
NT8D22 (master) – ST, 26, 28
NT8D22 (slave), 22
NT8D22 SW2 (slave), 24

T

Table
component failure rates, 56
field replaceable items, 55
NT8D22 (master) switch settings – NT or XT, 39
NT8D22 (master) switch settings – RT, 31, 33, 36
NT8D22 (master) switch settings – ST, 26, 28
NT8D22 (slave) SW2 settings, 24
NT8D22 (slave) switch settings, 22
pedestal wire gauge requirements (dc), 14
ST/RT alarm connections, 25
Temperature
AEM, 4
ambient, 4
hardware, 4
Top cap, hardware description, 3

U

Universal Equipment Module (UEM), description, 1
Unpacking AEM column, 7

W

Warning notice, 7, 13, 43
Weight
pedestal, 3
top cap, 3
Wire, requirements (dc), 14

Meridian 1

Application Equipment Module

Installation guide

Documentation Systems,
Northern Telecom
522 University Avenue, 14th Floor
Toronto, Ontario M5G 1W7
(416) 598–0126

© 1991, 1992, 1993 Northern Telecom
All rights reserved.

Information is subject to change without notice. Northern Telecom reserves the right to make changes in design or components as progress in engineering and manufacturing may warrant.

Meridian 1 and SL-1 are trademarks of Northern Telecom. UNIX is a trademark of AT&T. Motorola is a trademark of the Motorola Corporation. MVME products are trademarked by the Motorola Corporation.

Publication number: 553–3201–200
Product release: Standard 1.0
Date: April 1993

Published simultaneously in Canada and the United States by Northern Telecom.